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Dec 97 #1

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Internet. Works



VIRTUAL MONEY

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MASTER YOUR SITE

Recruiting a Web guru for your company
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INTERNET SERVERS

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Get on the
World Wide Web
worldwide.



"Last time I was in San Francisco, I had to pay a \$700 telephone charge on my hotel bill just for accessing my e-mails back in London. When put into perspective like that, you soon see the value of PIPEX Dial's Global Roaming service."

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UUNET has built many business-ready features into PIPEX Dial. For example, we make collecting your e-mail from wherever you are on the Web easy with our pioneering E-Web. If you need an Internet connection while on the move, our cellular access service can give you it without a phone socket in sight. And, with Global Roaming, PIPEX Dial gives you a full suite of mobile facilities. Furthermore, UUNET's vast experience and network means your business is guaranteed fast, reliable Internet connection every time.

To see how UUNET can help your business, try PIPEX Dial before you buy with a 28 day trial completely FREE.

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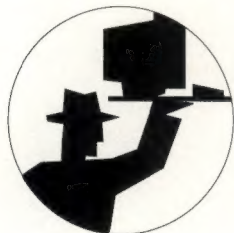
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December 1997

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@WORKS

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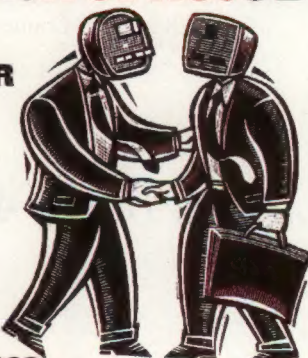
Internet.Works.CD

EXCLUSIVE
Borland (NT/Win95)
INTRABUILDER
A full version of the latest intranet building software

Claris
HOME PAGE
Design and build the perfect site with this full version

Netscape
COMMUNICATOR

PLUS Macromedia DIRECTOR
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Over £300 of FREE software

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60 Master your site

We give you the low-down on recruiting a Webmaster, from the requirements to look for to how much you can expect to pay

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successful Web site for
your business**

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70 Q&A

We look at some frequently asked questions and provide a complete set of answers

to Net profit

Are you confused by the Net?
Do you want to know how to
get started? Then follow our
12-step guide to Net profit

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Marcus Austin is editor of
Internet.Works



Welcome to...

Here at *Internet.Works* we care a lot about business on the Internet. We think it's the future for most companies and we want to help you get online with as little fuss as possible. We want you to succeed on the Net and in every issue we'll show you how to get there, what tools you need to get on the Net and how to make it an integral part of your company's product and marketing strategy.

This first issue of *Internet.Works* is going to be different from most Internet magazines you've read. First and foremost we're not here to tell you how to have fun on the Net, or to tell you where the best football sites are; we're here to tell you how to make money and we'll do it by showing you in simple and easy-to-follow steps. We'll help you with everything from planning your site through to marketing your site effectively.

Where we also differ from many other magazines is in our choice of writers. Instead of employing computer journalists who take a five-minute look at a product then go on to the next review, we've chosen writers who use the software and hardware as part of their daily work. The majority of our writers are all experts in their field; we've got Webmasters, marketing specialists, programmers and Web designers all passing on a wealth of information that's aimed at business users in particular. In addition, we're not going to use the same bunch of tired old journalists as columnists. Our rolling rota of columnists are all people who work in the Internet industry and who care about business on the Net – and who aren't worrying about where the next press freebie is coming from.

The **@Works** section is the real heart of the magazine. It's there to help you confront some of

the day-to-day problems that you might come up against on the Internet. **@Works** includes something for everybody – the sections are written for both experts and novices alike. And don't be put off by the names **Webmaster**, **Marketing** and **Internet Pro**; these sections are not just written for Webmasters, Internet professionals and marketers, they're also written for people who want help in marketing, Webmastering and on the Internet in general.

Other features you won't find within our competitors' pages are our **Case studies** and **Makeover** sections. **Case studies** looks at the very best sites on the Internet and takes each one to pieces, so you can gain from their pain. We tell you what's so good about them, what their innovative features are and what software and hardware they've used. Every month our **Makeover** section will take three Web sites and transform them into top sites, with plenty of help from our three leading industry experts. First we'll look at the design, then the marketing of the site and finally we'll get an expert to test it to destruction.

But don't forget that in addition to the magazine's great content, there's also the *Internet.Works* cover CD and our Web site. Rather than just fill the CD full of cheap demo software we decided to go for full versions of great software that won't timeout after 30 days. In addition, the Internet site offers lots of information and links to help you get around the Net.

We want you to make money on the Net, and if you're already online we'll help make your site even more effective at making money. We hope you enjoy reading this and future issues of *Internet.Works*. ●

Photography: Michael Donald

"We want you to make money on the Net, and if you're already online we'll help make your site even more profitable"

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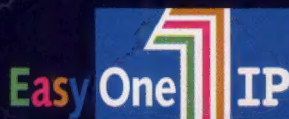
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LINX and MANAP Member, Backbone Provider

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Acrobat Reader 3.0 – Adobe –
(Win95/Win 3.1/System 7.0)

Communicator – Netscape – (Win95/3.1)

CompuServe – CompuServe –
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Director 6.0 – Macromedia – (Win95/System 7.1)

Flash 2.0 – Macromedia – (Win95/System 7.1)

FrontPage 98 – Microsoft – (Win95)

Home Page – Claris – (Win95)

Internet Explorer 3.0/4.0 – Microsoft –
(Win95/NT4 only)

IntraBuilder – Borland – (Win95/NT only)

Paintshop Pro 3.12 – JASC – (Win3.1)

Paintshop Pro 4.12 – JASC – (Win95)

Shockwave – Macromedia – (Win95/System
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WebSeeker 3.0 – ForeFront – (Win95)

WebWhacker 2.0 – ForeFront – (System 7.1)

WebWhacker 3.0 – ForeFront – (Win95)

Xara 3D – Xara – (Win95)

Other Utilities: QuickTime, Video for
Windows, McAfee, WinZip, Win32s



On the disc

Our easy-to-use Cover CD contains some of the greatest new software around – and it's all free!



There's over £300 worth of business software on our cover CD this month, including fully working versions of Borland's excellent *IntraBuilder*, Intranet building software, and Claris' *Home Page*, Web site building software.

In addition, we're giving you our Decision maker software so that you can get to the right product and the right Web solution for you in the minimum amount of time. This month we ensure that your decisions on choosing a Web design tool is as simple as one, two, three.

We're also including a searchable list of Web design companies with phone numbers and addresses. Plus we've got links to all of the software sites we feature on the disk.

Illustration: Shane McGowan

For PC and Mac

The CD is both PC and Mac based, and will work with both Windows 95 and Mac operating systems. Most of the information on the disk, Web designers and contact details is also readable by Windows 3.1 users as long as you also have a Frames-compatible browser. There are also win 3.1 versions of *Acrobat Reader 3.0* and *Paint Shop Pro* version 3.12.

You will need a screen that's capable of resolutions of 800 x 600 in Win95 or 832 x 634 on a Mac. You also need a copy of a Frames capable browser. You'll need to set your browser to Open rather than to Save on installing Files. All you have to do to load the disk is:

If you have a PC

1. Insert the *Internet.Works* disc into your CD-ROM drive
2. Select the D:\web directory and double-click on IWGROUP.HTM.
3. The *Internet.Works* program will now run. All you have to do now is follow the on-screen instructions

If you have a Mac

1. Insert the *Internet.Works* disc into your CD-ROM drive
2. Double click the CD-ROM to open your CD-ROM folder
4. Double click on IWGROUP.HTM. Now just follow the on-screen instructions.



EXCLUSIVE IntraBuilder 1.0

Company name: Borland

Web address:

<http://www.borland.com/intra-builder/>

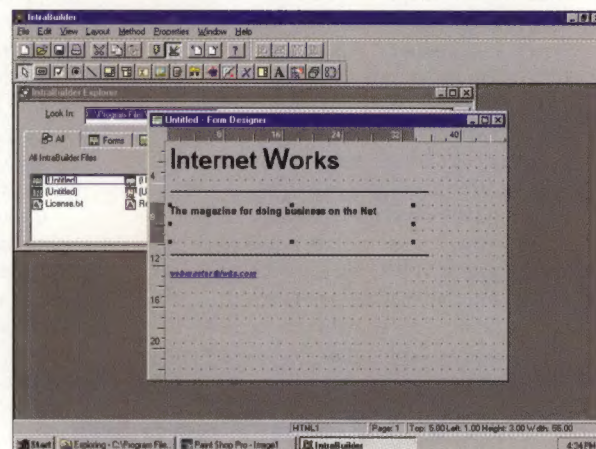
Price: The version on the CD is a complete full-development system

System requirements: Windows/NT 3.5.1, 486 or faster 12Mb RAM (16Mb NT), 30Mb, VGA, Internet connection TCP/IP protocol

IntraBuilder is part of Borland's new Internet Solutions Program (*J-Builder*, reviewed on page 87 is the other part of the solution), that aims to make developing Internet and intranet sites a matter of just pointing and clicking. Borland's *IntraBuilder* Client/Server-based program combines visual development tools with a scalable, high-performance application server.

With *IntraBuilder* you should be able to produce simple intranet pages that use all the latest bells and whistles, that link to your current corporate database without having to learn anything at all about HTML, CGI or Java.

IntraBuilder consists of a set of Visual Designer modules, Broker Web server connections, and Borland Database Engine and Agents. The



Broker connections support popular server protocols and APIs (NSAPI, ISAPI and good old CGI), while the Agents create dynamic HTML from JavaScript forms and reports.

The product supports the creation of thin-client applications that can run on a PC, Macintosh, or UNIX Web browser located anywhere in the world. *IntraBuilder* supports all major Internet standards, including HTML, HTTP, CGI, NSAPI, ISAPI, ActiveX components, and Java applets, and is compatible with Microsoft and Netscape Web browsers and servers.

IntraBuilder can also be integrated with *JBuilder* to provide high-performance Web-based database reporting for Java applications accessing Oracle, SyBase, Microsoft SQL Server, Informix, DB2, and InterBase database servers.

Building a simple intranet frontpage in IntraBuilder

If your CD doesn't work

If you find there's a fault with some of the programs not installing, first try copying the directory and all its install files to your computer's hard disk and installing it from there. If you still have problems installing the CD then please contact Stephen Withrington on 01225 442244 or you can e-mail him direct at support@futurenet.co.uk

Alternatively, if your CD is scratched or broken into a 1000 pieces, then return it to.

Internet.Works 1 CD returns
CD Systems,
VDC House, South Way,
Wembley,
Middlesex
HA9 0EH

DISCLAIMER

Our CD has been thoroughly scanned and tested at all stages of production. We recommend that you always run a virus checker on any software before you run it.

Future Publishing Ltd cannot accept any responsibility for disruption, damage and/or loss to your data or your computer system which may occur while using this CD, the programs or data on it. Ensure that you have up-to-date backups of the data contained on your hard drive before running any new software.

Decision Maker

Are you considering producing a Web site and need to get to an informed decision fast? Then just click straight to our simple Decision maker software.



We can find you the best Web design tools for your company's Web site regardless of whether it's a small site or you're putting your whole company on the Net. All you have to do is just answer three simple questions.

Home Page 1.0

Company name: Claris

Web address: <http://www.claris.com/intl/uk/>

Price: The version provided on the CD is a complete system

System requirements: Win95 or NT 3.5.1, 8Mb RAM (16Mb for NT), 486 or faster

Home Page is Claris' complete Web development package. It enables you to build dynamic Web pages in a matter of minutes, including tables and frames. You can either produce your site using drag-and-drop, or by directly editing HTML, you can even add Java applets, multimedia files and forms.

The Table editor enables you to create multi-row, multi-column tables, by positioning

where you want the table to be on screen and then dragging out the table size needed. You then fill it with whatever text or graphics you want by simply dragging and dropping.

If you want to see what your site will look like without the hassle of loading up your Web browser then there's an instant preview screen which lets you see what the site looks like over the Web. There's also a feature to tell you download times for each Web page graphic.

If you prefer to edit your HTML by hand, *Home Page* does a fair impression of a simple HTML editor program. To edit the HTML source code of a Web page in *Home Page*, click on the HTML button in the Tool bar and the program instantly displays the page's HTML code.

A big misconception with *Netscape Communicator* is that 'it's just a Web browser'. But it's a lot more than that. There's a news reader and mail reader, and a collaborative work environment, plus it's still the most used browser on the Web.

Internet Explorer 4.0

Company name: Microsoft

Web address: www.microsoft.com

Price: Free

System requirements: Win95/NT

Before you install *IE4*, please note: *IE3.0* and Service Pack 1 for Win95/Service pack 3 for NT4 must be installed before attempting to install *IE4*. Unfortunately, Future Publishing is unable to support this product. Although this is the final and complete version of *IE4* (not a beta copy), the integrated nature of this browser with the Windows Desktop could cause problems with some systems. If you intend to use it, then back up your system first.

Internet Explorer 3.0

Company name: Microsoft

Web address: www.microsoft.com

Price: Free

System requirements: Windows 95/ System 7.1

While *Internet Explorer 3.0* does not have all the bells and whistles of *Internet Explorer 4.0*, it will provide all your browsing needs with the minimum of installation fuss.

Director 6

Company name: Macromedia

Web address: www.macromedia.com

Price: £1,110 (inc VAT)

System requirements: Win95/System 7.1

Macromedia Director's origins as an animation tool and the simplicity of its scripting language (Lingo), have made it the most popular multimedia development software available.

Flash 2

Company name: Macromedia

Web address: www.macromedia.com

Price: £229 (inc VAT)

System requirements: Win95/System 7.1

FrontPage 98

Company name: Microsoft

Web address: www.microsoft.com

Price: £112.95 (inc VAT)

System requirements: Windows 95

The latest version of Microsoft's Web design package, makes designing simple but makes the Web administration even easier. Publishing to the Web is now a simple matter of clicking and forgetting. *FrontPage 98* takes Web design beyond simple drag-and-drop design, it enables you to drag-and-drop files and even other Web sites as well. Move files around and *FrontPage* automatically changes

every reference to that file and references within that file. Design in three different modes; either use the tens of wizards to produce tables, forms, frames, use the functions from the many toolbars, or go back to the old fashioned HTML by hand.

WebWhacker & WebSeeker

Company name: ForeFront

Web address: www.ffg.com

Price: £42.95 + £49.95 for full versions

System requirements: Win95/System 7.1

WebWhacker makes accessing the Web faster by automating your Web browsing so you spend less time and money on the Net. *WebWhacker* is essentially an offline browsing tool; you select a site you want to look at, decide to what depth it should search the site. Then *WebWhacker* does the rest. It goes to the site and stores all the information to your hard disk. *WebSeeker* is another offline tool; it's an offline search engine, of search engines. *WebSeeker* retrieves the addresses or full text of pages located by up to 25 Internet search engines. It creates indexed reports of the full downloaded text and displays them in *Internet Explorer* or *Navigator*.

Communicator

Company name: Netscape

Web address: www.netscape.com

Price: £44 (inc VAT)

System requirements: Win95/System 7.1

30 days' FREE Net access

If you're not already on the Net then why not take up CompuServe's offer of one month's FREE trial membership? This includes 10 hours FREE online time, which enables you to explore all areas of CompuServe's business-friendly Internet service.

With more than 400,000 members within the UK, CompuServe is a very well respected market leader with a strong reputation for innovation, service and quality. There's more than 300 products developed specifically for the UK, including news, business and financial services, travel information, computer discussion groups and banking.

Just follow the software links on our CD and load up the Mac or Windows 95 software. After the first month, membership costs just £6.50 a month including 5 hours online. Extra time costs only £1.95 an hour, which will be billed per minute

All you need now is a modem and you're there.

CompuServe can be contacted on: 0800 000200

Macromedia Flash enables you to produce vector-based animations. The advantage a flash animation has over an animated GIF is in the much quicker download time.

Xara 3D

Company name: Xara
Web address: www.xara.com
Price: \$29 from its Web site
System requirements: Windows 95

Bring your Web pages to life. *XARA 3D* enables you to create 3D title animations with ease. This evaluation software expires after 15 days use.

Paintshop Pro

Company name: JASC
Web address:
www.digitalworkshop.co.uk

Price: Version 4.14 available for £49.95 (inc VAT)

System requirements: Windows 95

Paintshop Pro by JASC Inc is definitely the best shareware graphics package in its class. Shareware software is not free, you must register *Paint Shop Pro* if you wish to continue to use it after its 30 day evaluation period.

Adobe Acrobat Reader 3.0 (Win95, Windows 3.1x or Macintosh),
Apple Quicktime (for Macintosh, Win3.1x, Win95/NT4),
Microsoft Video (for Windows),
McAfee Virus Scan (Windows),
Niko Mak's WinZip (Windows 3.1x, Windows 95),
Microsoft Win32's (Windows 3.1x)

UPGRADE OFFER

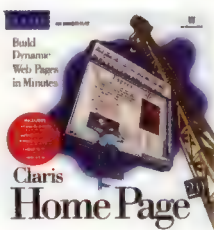
Home Page version 2

**Amazing upgrade offer! Get version 2 for under £23.
That's more than £80 off the RRP!**

If your appetite has been whetted by *Claris HomePage* version 1.0 on this month's CD, you might like to upgrade to the even better *Claris HomePage* version 2.

Clariss is offering an upgrade to version 2.0 for a mere £22.63 (including VAT and shipping). The new version carries forward the ease of use of version 1.0, with a familiar WYSIWYG approach, and drag-and-drop editing, alongside a whole host of new features that ensure making a home page is easy and quick.

HomePage 2.0 has support for features you see on the top sites – frames, tables, libraries, and multimedia plug-ins, such as *QuickTime*, *Java*, and *Shockwave*. It



includes 25 site templates, which you can use as the starting block for all your own creations.

Practical tools such as spell-checking are available, alongside HTML editing enhancements, such as syntax colouring which colours HTML tags for easier identification and editing.

Downloading your finished site is easy, with auto-consolidation of files and one-step uploading. There are client-side and server-side image maps for easy linking to other pages and sites.

In addition to all this, there are 500 clip art images and a multimedia tutorial for beginners. *HomePage* also includes *WebSTAR*, a professional Web server.

**Contact Clariss' home page for more information
(<http://clariss.com/intl/uk>) or phone the company on**

0345 413060

Register now!

In order to use the complete version 1 of *HomePage* included on the CD, you need to register it with Clariss for a password. You can do this by posting or faxing this form, or registering on the Clariss WWW site. The fastest way of obtaining your password for using Home Page is to register on the Clariss UK WWW site. You'll find more information at: <http://www.clariss.com/intl/uk>

If you don't have WWW access, you can register by completing and returning this form.

Title First name
Name
Surname
Organisation
Your address
.....
Town
County
Postcode
Telephone number
Fax number
E-mail address
Date

Now send this form to:

Clariss UK,
Internet Works Home Page Registration,
1 Roundwood Avenue, Stockley Park, Uxbridge,
Middlesex, UB11 1BG

or fax it to:
Clariss UK, Internet Works Home Page Registration,
0181 756 4101

Your password will be sent directly to you.

To be completed by Clariss

Thank you for completing this form. The password is as follows:

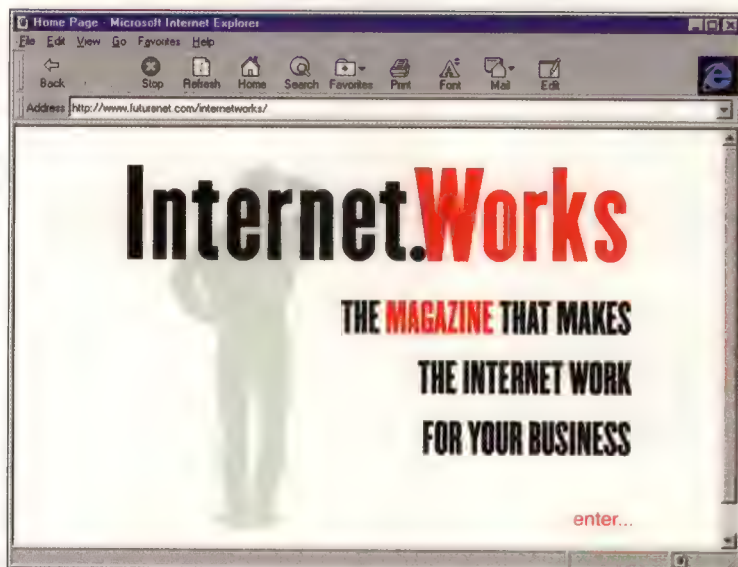
Password

Enter the password exactly as shown (using capital letters) to install Home Page 1.0 for Windows 95.

Important: there is no technical support with the free copy of HomePage 1.0 for Windows 95.

What's online

Packed to bursting with everything from a contacts section to live show coverage, the *Internet.Works* Web site is an essential ingredient to your company's Internet success



if you want a corporate Web page... head straight for our Contacts section

Internet.Works is not just a magazine – it's a living breathing Web site. You'll find us at www.iwks.com or through a link from our extremely successful sister site www.futurenet.com

On the Web site this month we've got some extra special information not contained in the magazine. There's a complete guide to UK Web design companies, and if you want a corporate Web page, but you don't have the time or experience to do it in-house, then head straight for our Contacts section.

Web companies are listed by location, so it doesn't matter where you are in the country, you should always be able to find a company near you.

The online links will take you to all the companies mentioned in the magazine's editorial, so you don't have to remember all those tedious URLs. There's an online glossary so you can bluff your way to the top, and a special online subscription form to get your copy of *Internet.Works*

Watch this site for the very latest Web news

delivered to your door. Who says we don't practise what we preach?

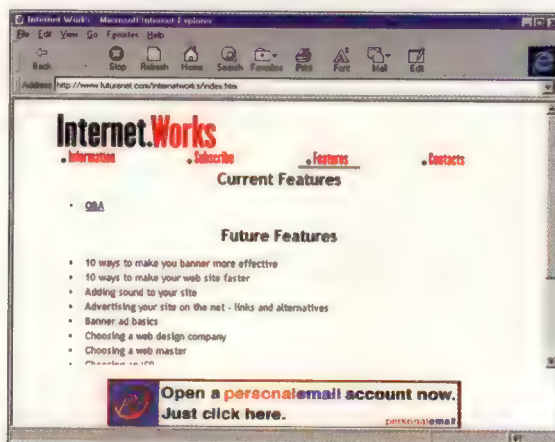
What's more, we're going to be sending daily listings from the US Comdex computer show in Las Vegas (17 – 21 November), using some of the technology we've reviewed in the magazine. We'll also be doing some live coverage from the Internet World show in New York (8 – 12 December).

You'll also find a full listing of our Q&A section, our Net statistics, and our special domain name questionnaire competition. Future attractions include a comprehensive index of each issue, special news reports, and a few more goodies that we can't reveal just yet.

Web companies please note: if we've missed you off our list, or you're changing address or contact details, then please send your details in NOW!

Watch out for updates and more practical Internet information. ●

Search our Q&A feature for the answer to your CGI problems



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- Learn how to attract new readers to your site
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Need a safe network?



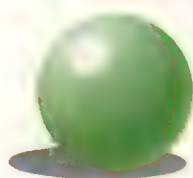
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NEWS

If you've got any news for Internet.Works, then Contact gillian.roach@futurenet.co.uk
If not, then read on for the latest stories to hit the Internet market.

Plug in, turn on, log in

A new technology means that data transfer over the Net just got faster

Faster and cheaper Internet access could be on the way for many thousands of Internet users early next year. Three years of trials of a new technology have been successfully completed and the system is about to go 'live'.

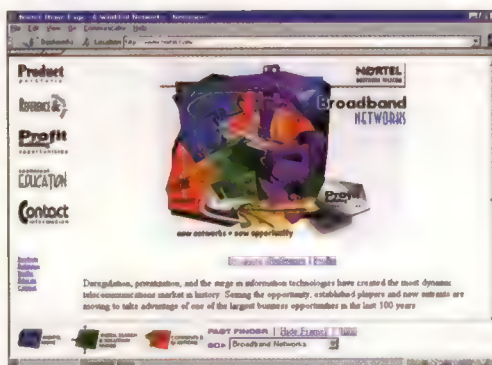
Norweb Communications (www.norweb.co.uk), a part of United Utilities, and Nortel (www.nortel.com), the Canadian telecoms supplier, has jointly developed and patented a system enabling data transfer over existing electrical power lines, direct to the user at speeds of between 500Kbps and one megabit per second.

This is a tenfold increase on the ISDN and 20 times faster than the existing high-speed modems enabling the use of more complex

applications and media. The system appears to be suited to existing PCs as well as to the less expensive NetPCs and JavaStations.

The system was trialled on part of Norweb's network. It uses patented technology that allows transmission of standard data signals over conventional copper lines, something that until today was only achievable at snail-like speeds. "The electrical power network is a harsh, noisy environment for communications signals," said Graham Strange, vice president of market development for Nortel Broadband Networks.

Users will need a network card, which plugs into a co-axial cable system, similar to the current TV system, that connects to a 'black



Goodbye BT call costs, goodbye annoying modems. Hello 500Kbps...

box' that accesses the information via the standard 240V mains electricity supply. It is perhaps best thought of as being similar in principle to a base station/router connecting to a ATM broadband hub. Users will have unlimited

access for a set monthly fee.

Nortel's technology will be challenged by cable modems and the telecoms service asymmetric digital subscriber line (ADSL), which offers high speed Net access via ordinary twisted pair lines.

Virtual Internet enters Core

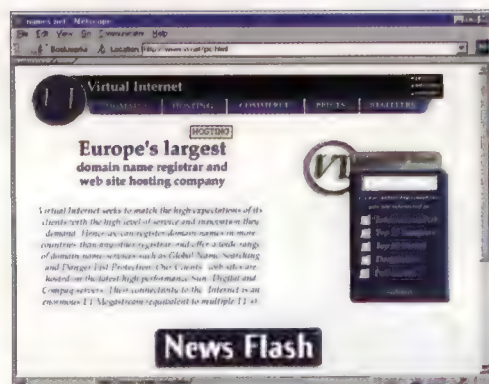
The Domain name registry's entrance into Core is good news for UK users

UK Domain name registry, Virtual Internet, is set to break InterNIC's naming monopoly as it announced its entrance into the Council of Registrars (Core).

US-based InterNIC, which has held a stranglehold over the registering rights to Domain names, will be joined next year by Virtual Internet (www.vi.net), which will also gain rights to register names.

The service will be available from April 1998, when UK firms will be able to register .com, .org, .net and new generic Top Level Domain names (gTLDs), from Virtual Internet's London office.

The move should please European users as InterNIC are notoriously hard to contact from this side of the Atlantic, a fact that would have weighed heavily in Virtual Internet's favour when joining Geneva-based Core.



"The Internet is often seen as US-centric. One of Core's aims is to redress the balance. What we're seeing is the commercialisation of Internet naming systems. Until recently, naming has been run by non-profit organisations. It was not commercial, although it was very professional," said Jason

Drummond, managing director of Virtual Internet.

As part of an upgrade to a two-year-old network, Virtual Internet has announced that its Web-hosting services will be migrating to Sun UltraSPARC servers, the most noticeable effect being an increase in speed over the old system.

Now you will be able to register your domain name without a lengthy call to the US

Loyalty to Bookpages

Bookpages, Britain's second largest Internet bookshop, has launched its first loyalty scheme within its retail sector.

The scheme signals a war between Waterstone's and Dillon's - both companies recently entered the world of Web sales. Dr Simon Murdoch, managing director of Bookpages (www.bookpages.co.uk), said, "We are not really worried about Waterstone's and Dillon's entering the market as they are unknown overseas and 65 per cent of our customers are outside Britain."

The scheme is aimed at regular Bookpages customers giving buyers one point (1p) for every 20p spent on the site, although some books will earn double points.

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Internet sharks

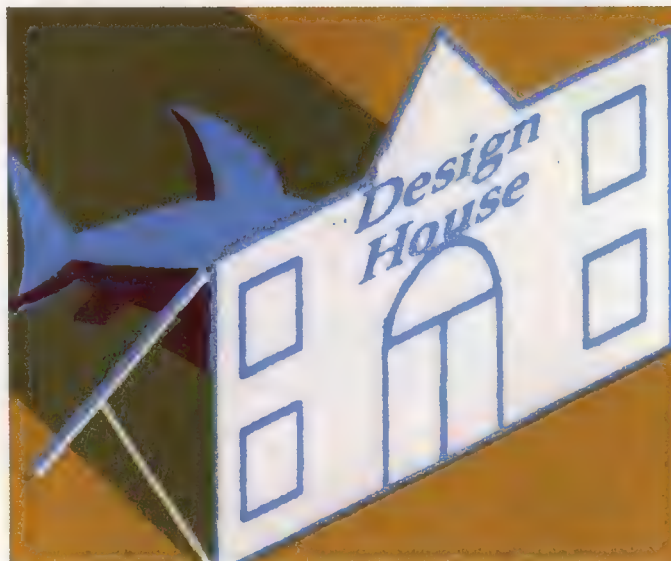
As the Web design market grows, so too does the potential for con-artists

If you are a small or medium-sized business with a Web site, it's likely that you have been targeted by telesales companies posing as legitimate Web designers.

This is the finding of a study undertaken by Web designers Creative Overload, in conjunction with Dun & Bradstreet Marketing. The study, focusing on businesses that have recently acquired Web sites, found that 60 per cent believed they had been over-charged for their site, with 40 per cent never being consulted after their initial payment.

Keith Hodgson, director of SX Consultancy and SX Software, said: "We were alerted to the problem when two major clients asked us to sort out their sites, which had been designed by a Web design agency. We found that clients would run through design specs with the designer but then contact was not continued, resulting in a bad site."

The marketing department of



SX Consultancy then carried out further research and discovered that many companies were disgusted with sites they had paid a lot of money for. The team was surprised to find that the people who were actually approaching potential clients had no Web design experience and were in fact telesales companies contracting work out to Web designers straight out of college.

The 1997 Web Design Market report states that there are over 80,000 UK company Web sites on the Internet which, although

showing the willingness of UK companies to harness the marketing potential of the Web, also highlights a huge gap in the market for potential cowboys.

Stuart Dennis, director of Creative Overload, commented, "This is a massive industry and there are always new design houses entering the market, some of these will be legitimate, but a lot of them are supplying inferior Web sites and we don't want our name associated with these people."

You can find Creative Overload at www.creativeoverload.co.uk

Microsoft millions

In a complaint filed by the US Justice Department in the District of Columbia the court was asked to hold Microsoft in civil contempt for forcing PC makers to bundle the *Internet Explorer* browser with PCs on which Windows 95 is installed.

Sun recently sued Microsoft over alleged corruption of the Internet language Java. Bill Gates now faces the proposition of paying £1m dollars a day to the Department of Justice. The Attorney General, said that the US Government would seek the fines of \$1m (£613,000) a day against Microsoft for its alleged violation of the 'consent decree'.

According to the DOJ the 1995 anti-trust settlement, signed by Microsoft, prohibited them from forcing PC manufacturers to license any other Microsoft product as a condition of licensing Windows 95.

WorldPay: virtual money

Small transactions can now be made over the Internet with the aid of WorldPay's new micro-payments service which is included in its payment system.

Transactions can be made using the smallest denomination of any currency from anywhere in the world and is available to anyone who has a recognised credit card or debit card.

"Opening a WorldPay account enables retailers and merchants to sell low value products and information in low denominations of any currency," Nick Ogden, managing director of WorldPay (www.worldpay.com) told *Internet Works*. "A WorldPay account alleviates the need to download electronic wallets and means there is no charge for switching currency."

Search and alert

Netnames keeps track of other companies registering similar domain names as yours, with the introduction of its Domain Name Search and Alert Service. When someone registers a domain name similar to yours, anywhere in the world, Netnames will inform you.

"The service works from a huge database that is assembled on a 24 x base by an automated Namecrawler, developed by Netnames," said Ivan Pope, CEO of NetNames. "The Namecrawler brings us immediate information on everything that is registered around the world and allows us to alert clients automatically."

It is important to keep track of other companies registering similar names to yours as customers can get confused. Problems are caused for Microsoft, for example, when customers register www.microsoft.com or other variations.

Netnames Search and Alert service costs £150 per name per year and discounts are available.

Cellnet's mobile Genie

Obtaining information from the Internet is now as easy as switching on your mobile phone.

Cellnet's Genie is the first news and information service to be delivered to your mobile phone or any e-mail address in the UK.

The information comes directly from the Genie Web site (www.genie.co.uk) and is free to all Cellnet subscribers. The site contains information on news and current affairs, sport, finance, entertainment and careers provided by Reuters, Moneyfacts, ICV and the Press Association.

"You view share prices on your phone," said a Cellnet spokesman, "All you have to do is to visit the

Genie Web site, register your phone number or e-mail address, tell us which shares you are interested in and Genie will do the rest. The service is free, but with every message we will give you a number to call to get more information which we are hoping people will use."

However, it is not only share information that's up for grabs. You can request to be alerted to a wide range of financial and entertainment information, such as when tickets become available for a certain concert.

In the future, Cellnet hopes to extend this to include tickets for football, rugby and Formula 1.

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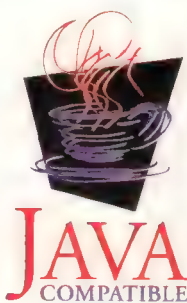


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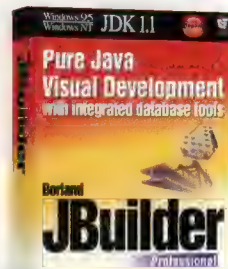


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IE4 sparks support calls

Microsoft's technical support lines reach melting point

The release of Microsoft's *Internet Explorer 4.0* has sparked an increase in support calls from customers experiencing installation and configuration problems when attempting to load the browser. Our support line here at Future Publishing has been taking over 100 calls per day from customers complaining that they had to re-install Windows after loading *IE4*.

"We expect to see an increase in support calls for a product as significant as *IE4*," Bruce Lynn, Internet customer unit manager, Microsoft, told *Internet.Works*. "It's a major functional and architectural upgrade and changes the way your operating system behaves... there are a few bugs in the software, but this is not a problem unique to Microsoft, and is typical of most software released these days."

He added, "It is not true that



we are using customers to beta test our software. Our beta program for *IE4* began in April of this year and involved around 100,000 people around the world testing the software." Customers' complaints range from problems with dial-up networking and the auto configure of *Outlook Express* to problems with installation, where the process halts at 78 per cent, after which the machine has to be re-booted.

In the week that *IE4* was

launched, Microsoft recorded over 2 million downloads of the browser from its Web site. It is this popularity, says Microsoft, that is causing the increase in support calls, not a hole in the product. However, Microsoft does plan to offer extra training to its support staff and will be updating the product in the 'usual' way, via patches, downloadable from its Web site as and when required.

"There isn't one overriding problem that customers are complaining of. Therefore we can only put it down to sheer weight of numbers," said Lynn.

Problems with *Internet Explorer 4* have been well documented. Several security holes have been found in the software, which enables hackers to spy on text and HTML files by embedding code in a Web site or e-mail.

C&W secure service

Now you can access the Internet with absolute confidence

The Cable and Wireless Secure Internet Service offers a solution to companies wishing to access the Internet with the security many feel is essential before going online.

The continually managed and secure Firewall platform, hosted by Cable and Wireless Communications, enables customers to be completely confident in the security of their connection to the Internet.

The Firewall can be configured to control the level of access employees have to the Internet. This ranges from controlling who can access various sites and what information can be downloaded from those sites.

Lucy Gibbs, messaging and Internet services manager, Cable and Wireless Communications, explained, "Most corporations can see the advantages offered by the Internet, yet are reluctant to embrace it due to a number of issues and concerns, not least security. There are usually two key concerns for corporates: protecting

the internal network and competitive information from hackers, and managing Internet usage by employees."

The service offers a number of useful features including security and continual monitoring by Cable & Wireless Communications from their Network Centre.

This option gives businesses confidence in their Internet security

without needing to spend a great deal of time and money buying, installing and constantly monitoring their own firewall.

"The Secure Internet Service allows customers the security they require without the hassle of managing this crucial business technology. This means corporates can concentrate on their business strengths," concluded Gibbs.

New MS support site

Microsoft has launched its new UK support site and promises that it has been developed "with the needs and wants of the UK firmly in mind". Not only does the new site contain technical information available in the past but also a richer source of information for UK users' business and personal needs.

The site offers an easily navigable Webzine format, so that wherever you are, other elements of the site are never more than one click away.

The site's content includes an article by a leading IT journalist, hints and trouble-shooting articles from UK experts, technical support available through a number of useful tools, support options available in the UK and an online survey to encourage user feedback.

Microsoft is keen to stress that this site is not an end product but an ongoing concern which it hopes to build on with help from users.

The site can be reached at www.microsoft.com/uk/support

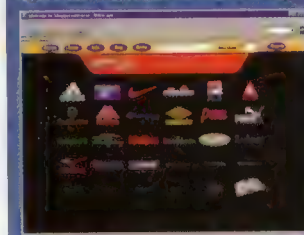
Site watch

Sports Elite

Sports Elite, the UK's first dedicated sportswear catalogue, went online in October. The new site offers you the chance to buy a variety of top quality brands, such as Nike and Ralph Lauren, over the Internet.

Sports Elite (www.sportselite.com), a trading division of Gus catalogues, enables you to browse through a wide range of products and brands or place them in a virtual shopping bag ready for purchase.

The site covers more than 400 lines of sportswear from



an extensive range of brands and the catalogue will also be available in a 100-page hard copy as well as on the Internet.

Eventer Design Group

Eventer Design Group, one of the South's largest design agencies, invites you to take a stroll through their innovative Web site (www.eventer.co.uk).

The Web site follows a room concept and in a bid to familiarise potential customers and those just visiting the site it has been designed so that it mirror the company's East Sussex offices.

David Ward-Streeter, managing director of Eventer Design Group, said, "We wanted our Web site to be intriguing and to encourage visitors to get to know us, so they can see if we are right for them before we even meet, hence the 'room concept'."

Snickers

Snickers has joined the World Cup band wagon with an impressive plug-in-laden Web site (www.snickers.com)

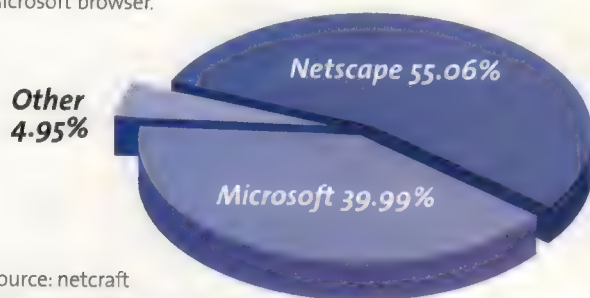
The Snickers site will enable you to keep up to date with scores, read reports and interviews and give you access to a virtual stadium.

Web essentials

Internet facts and figures at your fingertips

Web browser wars rage

Microsoft drops in on Netscape's wave of browser success with an increase in its share of the browser market. Of those surfers visiting futurenet.co.uk, 55.06% use Netscape browsers while 39.99% use a Microsoft browser.



(source: netcraft
www.netcraft.com/survey/)

UK leads the way

Companies in the UK are leading the way, in Europe, when it comes to the adoption of Internet technology, says a new report from Cadis International. The survey of 100 large manufacturers found that UK firms are ahead of their French and German counterparts when it comes to using intranets for internal communication and the Internet to research competitive market information.

The intranet's role was endorsed by 70% of the British companies surveyed, but only 45% and 60% of their French and German counterparts, respectively. When it comes to the Internet, 37% of UK senior management said they used the Net as a source of competitive market information, whereas only 15% of French and 20% of German companies admitted the same.

Intranet market to hit £3.5 billion by 2000

The UK intranet market, which is currently valued at £828 million, is expected to hit £3.5 billion by the year 2000, says European services group, CMG. The report concluded that out of the 250 leading UK companies questioned, 48% already has an intranet, with a further 36.4% planning to implement one within the next 12 months. Of those companies with an intranet, 94% anticipates expanding the use of it to include such services as marketing, customer profiling and customer services.

Access when and where?

A report by Continental Research has found that over half the people who use the Internet at work do so on three or more days in a week, over a quarter do so around once a week and only 6% use it once a fortnight or less. On average, someone who uses the Internet at work does so

on almost four days of every week. There is little difference between the amount of time a home user spends online and the time a business user does. On average a home user will spend 42 minutes on the Web per session while a business user will spend around 48 minutes.

Frequency of using the Net	At home	At work
Three or more days a week	54%	65%
About once a week	26%	28%
Once a fortnight or less	19%	6%

Netcraft reveals top ten Web servers

Apache servers account for 43% of those responding to Netcraft's survey. Microsoft has increased its market share by 0.86% which is the biggest single increase revealed by the survey.

Server	Sep 97	Per cent	Change
Apache	643,373	43.86%	-0.17%
Microsoft IIS	258,242	17.60%	0.86%
Netscape Enterprise	76,704	5.23%	0.09%
NCSA	68,033	4.64%	-0.26%
Netscape Commerce	39,863	2.72%	-0.15%
Stronghold	39,754	2.71%	0.10%
thttpd	35,329	2.41%	-0.04%
WebSitePro	34,094	2.32%	-0.23%
RapidSite	33,400	2.28%	-0.05%
Netscape Communications	32,761	2.23%	-0.19%

Full survey can be viewed at www.netcraft.com/survey/

In brief...

- 66% of businesses not using the Web believe it will have an effect on their businesses within two years (source: JCP).
- The 100 top UK companies believe that 20% of their revenue will come from e-commerce transactions by the year 2000 (source: KPMG Electronic Commerce Report).
- By 2005, "Internet transactions will increase to 17 billion, an amount that equals almost 50% of the credit card market." (source: Killen and Associates).

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HARDWARE

Supertest: buying a new PC?

We head out with £2,000 burning a hole in our pocket. Check out next month's Supertest to see what setups we came back with... don't spend a penny of your own money until you've read our in-depth group test!

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Chris Comley is Technical
Director of Astra plc



How fast is fast?

Someone telephoned me on Friday, frantic to discover if an ISDN dial-up account with Astra would enable him to use two B channels at once for an effective bandwidth of 128K. This is not unusual; I get asked this about twice a month. The answer is always, "yes, provided your equipment supports it". And yet, according to the logs, people rarely use this facility.

Think of the Internet as a network of roads. Your office is built on a fast stretch of dual carriageway on the edge of town because you need to get to places quickly. You're only a mile from the nearest motorway intersection, and if you need to visit a company further up the same road, you get there in no time. But take the same journey during rush-hour or to somewhere in the middle of nowhere and it's a different story. You tear up the motorway, then you're off into country lanes getting stuck behind tractors. No amount of horsepower will help.

And so it is with the Internet. My caller is planning to use video conferencing over the link, with a specific company. And since I know the link between our point of connection and that of the ISP the other company is using, I can assure him that he'll get a good throughput. He'll also use the double-channel if he sends or receives large amounts of e-mail, because then he's only communicating with machines on our site.

But if your main requirement is to download files from distant Web servers, then try this experiment: connect to your ISP. Launch your browser and connect to a Web site, say Microsoft in the US. Pick a file and download it. See what speed it comes in at. If you only get 200 bytes per second, then the bottleneck is not due to your connection speed to the ISP. You can get 200 bytes per second

without compression across a 2,400 modem link! If you're getting less than 5,000 bytes per second, you're not stressing your local connection at all. Transfers from this site at this time are unlikely to improve in speed merely by you upgrading the equipment you use at your office.

To speed up this transfer, see if the Web site is less busy at other times of the day – many busy sites in the US will be quieter in the morning, when most Americans are still in bed. See if there's a 'mirror' Web site – another site with the same information on it in the UK. Find out if your ISP has a proxy server that you can use. If you make your browser talk to this instead of collecting the file directly, you may find the file has recently been accessed by someone else, which means the proxy server will have a copy of it and you can download that. Also, try to avoid your own ISP's peak period.

Finally, if you've got no option but to download it, then it's going to take time, but if you're only using a small portion of your available bandwidth for the file, don't forget that you can do many things at once on the Net. Start the file downloading, then open a fresh browser window to another site and download something else useful at the same time.

If you regularly get 5,000 bps or better, though, then for more speed by all means consider a faster local link. 33.6Kbps modems are commonplace. ISPs are bringing 56Kbps modem technology on stream as fast as their equipment manufacturers make it available (but most, incidentally, will be k-flex, not X2), and ISDN-2, which most ISPs support now, gives you a basic speed of 64Kbps, not to mention much faster connect times than any modem. ●

Photography: Michael Donald

"You tear up the motorway, then you're off into country lanes, getting stuck behind tractors"

Let someone you

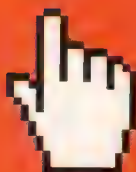
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consultant for a major ISP



Net gold rush

There can only be one reason why companies publish Web sites – to make money. Making money on the Web can take many forms, such as increased customer loyalty or product awareness, but the most measurable and probably most profitable method is selling via the Web. Many organisations in Europe seem to have missed this, thinking that Net users outside the US are unwilling to use the medium to purchase goods or services online, but are they?

Without doubt, the US is streets ahead here. Consumers and business users alike are more than happy to part with their money over the Web, but is the European market really any different? Potentially, I don't think so; organisations are just unwilling to commit to electronic commerce as part of their business strategy. The business communities in Europe and America are very different in this respect. Europe is far more conservative in the risks it takes, especially in technology. The US is far more comfortable trying new ideas such as e-commerce.

If you are wondering what the Americans have to do with you, the point is they are taking your business away. Because UK companies do not use or will not use the Internet to sell, it doesn't mean consumers and business users are still ignoring buying via the Web. The problem is that they are buying from US firms, not British companies, because it is the only choice they have. Britain has to utilise this technology to protect its income, not just expand it, because we are now under more threat from foreign imports than ever before.

The primary reason for Europeans thinking consumers are not yet comfortable with e-commerce is the misconception that it's unsafe. To

put this into perspective, you have to remember that 90 per cent of credit card fraud takes place with the merchants themselves. It's far more likely that the shop you are buying from will misuse your details than an international hacker-ring intercepting your credit card number over the Internet.

Selling over the Internet can be big business, your company can be open 24 hours a day – globally, your cost of sale will be dramatically lower, thus increasing your profit margins and potentially lowering prices for your customers.

Take Amazon books, which has floated for over £120m. This company never existed anywhere other than the Internet, and yet within a matter of months it became the world's largest bookstore. Amazon didn't do well by accident, but because it was the first to get the business model right. Because it's only on the Web, the cost of sale is significantly lower than that of its competitors who have shops and all the associated costs to support. Amazon made the site easy to buy on, with the largest product range at the cheapest prices.

There are a number of companies that have achieved similar things within different industries, for example, Dell attributes over six per cent of its massive sales in computers to its Web site. However, such success has only happened in a small percentage of industries so far.

The Internet is still much like the gold rush: there are huge opportunities for the first companies to experiment with and get themselves established as market leaders – and make big money. It's estimated that e-commerce will account for over £100bn of business by 2001 – who wouldn't want a slice of that pie? With a number of Web design agencies, commerce companies and ISPs able to offer you a professional, safe solution, there has never been a better time to stake your claim. ●

Photography: Michael Donald

Unlike the US, Britain has so far been cautious about online commerce. Owen Geddes asks why

NEW ARRIVALS

This section of the magazine is dedicated to providing you with all the information you need on the latest software and hardware products to hit the market

Boomerang

The days of calling Ms Jones into the room for some dictation look bound for the annals of office history with the launch of *Boomerang*, a dictation tool from Dictaphone (www.dictaphone.com).

Boomerang enables you to dictate direct to a desktop or laptop PC via a hand-held microphone, eliminating the need for separate dictation/transcription machines. Spoken memos, letters and documents can be sent across

LAN, WAN, or the Internet for transcription. Andrew Davies, Director of Dealer Operations at Dictaphone, said, "With almost every desk in the country now having a PC on it, the next step is to equip them with the power of voice. *Boomerang* is the first system to do this and the freedom it grants is immense. Users are no longer tied to their PC by a

keyboard. Instead they are free to digitally record and edit voice files just as easily as speaking. One click and the voice file can be moved anywhere on the network."

Boomerang offers a host of benefits. It can act as a two-way verbal messaging system, voice-annotate text or graphic documents via e-mail for network or Internet delivery, send spoken documents to a typist, and generate, delegate and communicate ideas faster and easier.

Andrew Davies sees *Boomerang* as a crucial breakthrough and the first step in the development of Dictaphone's 'voice-to-text' capability. He said, "*Boomerang's* open architecture will appeal not just to the end user, but also to software, workstation and information system manufacturers. It's a crucial breakthrough, and I expect it to have a big impact. We see *Boomerang* as an important and necessary step towards the eventual goal of pure 'voice-to-text' capability."

The *Boomerang Voice Exchange* package consists of software supplied on CD-ROM, hand-held microphone and PC adaptor kit, enabling plug-and-play operation. All *Boomerang* software can be loaded simply on to any networked Windows 95 e-mail to send voice messages.

Countermatch

Countermatch, the most extensively tested public signature verification system in the world, is now freely available via download from the AEA Technology Web site (www.aeat.co.uk/pes/ancc/counter.htm).

Countermatch runs under Microsoft Windows 3.1 and on any standard IBM-compatible PC. The program provides a secure, automatic means of verifying the identity of a person. It can be applied to areas currently using passwords, ID cards such as cheque or credit cards and PIN

numbers and is a great tool for staff who must frequently judge the authentication of people's signatures.

The program uses biometrics to qualify a signature against an authorised version using several criteria including the shape and speed of your signature.

Signature capture and processing is carried out using conventional PC hardware plus a Wintab-compatible digitising tablet. The downloadable version of *Countermatch* is a 1.3Mb executable file for MS Windows 95 and MS Windows NT.

The system is already used as a source of signature verification by the Department of Social Security and the Prison Service. The DSS have been involved in extensive field tests of *Countermatch* since 1994 in a bid to cut benefit fraud and the prison service are using the software in Pentonville where it may soon be used for the signing in of visitors following a number of prison breakouts.

BT Intranet Complete

Small to medium-sized businesses wishing to establish an intranet without the hassle of initial start up and management costs now have the ideal solution from BT *Intranet Complete*.

An intranet can help organisations dramatically improve their internal and external information flow and research suggests that 40 per cent of British businesses will be running an Intranet by the year 2002.

Intranet Complete represents a new approach to intranet provision. With minimal up-front capital investment required, it also dramatically reduces the start-up cost and lead times of implementing an intranet, thus lowering the entry barriers for all organisations.

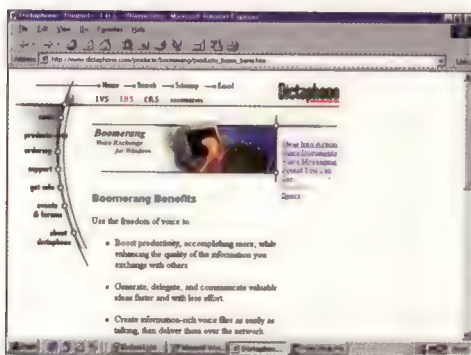
This BT service takes advantage of software platforms which are provided by Microsoft to enhance BT's global networking expertise.

Intranet Complete offers a ready-to-go solution for any size organisation wishing to outsource its intranet implementation and management and is therefore suitable for business partners or communities who would like to share information and resources without the burden of managing the underlying technology.

BT itself is probably the best proof that the Internet can work for business. With 65,000 users and 2 million plus pages available, the size of BT's own Intranet network is considerable and the savings illustrate the importance of this new technology. In the financial year 1995-1996 BT saved £305 million and between 1996 and 1997 savings are expected to top £800 million. BT's system shows the rewards an intranet can reap for your business.

Rupert Gavin, BT's director of Internet and multimedia services, said, "Many industry forecasts suggest that the global market for intranet technologies will dwarf the Internet by the millennium. This points to the number of companies and organisations waking up to the advantages of intranet, particularly the significant economic and cultural benefits."

BT Intranet Complete is available in the UK now.



Carry your voice around the world on the Web with *Boomerang*

Exhibition update

November 16-19
Workplace '97,
Olympia, London.
Tel: 0181 910 7815.

17-21
Comdex '97 in Las Vegas, US
Tel: 00 1 617 433 1650

18-19
Data Warehousing '97
Olympia, London
Tel: 0181 910 7815.

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A one-stop search service to see if your domain and domain name have been registered in over 200 countries. The only way to get the most accurate results is to use our search engine at www.netnames.co.uk.

Global Registration

From single domains to multiple international registrations, we are experts at protecting your intellectual property in over 200 countries. Whether that's your brand, your business, or your product, your domain name is international – and that's why you should be registered in over 70 countries by NetNames. Contact our Overseas Registration team to find out how our Global and European high-end packages can protect your name where they are most vulnerable.

Value Added Services

Free services allow you to be up and online with your chosen Domain Name immediately. We give you free DNS hosting, as well as email and Web site traffic forwarding as part of this service. This means you can use any domain name with **any** email and Web site accounts and be up and online immediately.

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↙ Pricing is scaleable depending on the individual customer requirements and site volumes and sizes, but in the UK is typically in the range of £200 to £1,200 per year, per user.

Macromedia Visual solution

Macromedia, the leading provider of cross-platform software tools for Web publishing, multimedia, graphics and education, have released *Dreamweaver*, the first visual HTML authoring tool.

Dreamweaver enables the Web development professional to combine the power and productivity of a visual tool with the flexibility offered by an HTML text editor. *Dreamweaver* will also be the first HTML editor to offer indepth support for Dynamic HTML and is the first visual tool that automatically generates crossbrowser Dynamic HTML which will display in both Microsoft and Netscape 4.0 browsers.

One of the major obstacles conquered by *Dreamweaver* is the problem of written HTML being destroyed or changed once passed through a visual Web page editor, something that encouraged many Internet professionals to reject visual editors in the past. The *Dreamweaver* engineering team has built the product on a foundation that preserves the quality of original HTML source. The underlying HTML enables you to switch between the current HTML source editor and *Dreamweaver* without fear of changes to your HTML.

A pre-release beta version of *Dreamweaver* is currently available for download, at no charge from the Macromedia Web site (www.macromedia.com). *Dreamweaver* will be available for Windows 95, Windows NT and Macintosh Power PC at an estimated introductory price of £199 until 28th February 1998, eventually being priced at £325. *Dreamweaver* will also be available for purchase through Macromedia at the company's Web site.



Weave dreams onto your Web site with Macromedia's latest download

Invisimail by RPK

If you thought e-mails were a secure way of sending information over the Internet then think again. It is as easy to tamper with your e-mail as it is to access an unprotected hard drive. RPK's new e-mail encrypting package, *Invisimail*, could be the answer to your e-mail security worries. *Invisimail* can attach a digital 'signature' to your e-mails, ensuring that the e-mail stays intact until it is read by an authorised user.

"It's not paranoia, it's common sense," says Jack Oswald, president and CEO of RPK. "Imagine if someone intercepted an e-mail that was sent by Bill Gates to one of Microsoft's partners and changed the wording, the result

could be devastating. *Invisimail* encrypts your message and even enables you to make secure financial transactions over the Internet"

Invisimail enables you to send and receive e-mail messages securely over the Internet by encrypting all messages that are sent out. The software interface looks just like any other e-mail system, is completely transparent to the user and compatible with all major POP3/SMTP Internet e-mail software and Gateway servers.

However, one downside to this new package is that messages are only encrypted if sent to a server running *Invisimail*. The system will warn you if you are about to send mail to a server which is not compatible with the software, but the mail cannot be encrypted.

Invisimail is available in three downloadable versions from www.invisimail.com: Introduction (Free) Personal (\$19.95) and Professional (\$29.95). A server product will be available by December 1997 which will enable users to send thousands of encrypted messages over a corporate network and external e-mail.

Windows Draw 6

Micrografx has launched the new *Windows Draw 6 Print Studio* Premier Edition, giving first-time Web designers a chance to spruce up their site without any previous knowledge of HTML. The program is a PC-based application aimed at small businesses and delivers extensive design options and creative opportunities.

One of the most impressive features of the new package is the Web publishing capability which uses the same wizards and graphics tools for creating pages for print output as it does for Web publishing.

There are a variety of Web backgrounds, buttons and icons available to give Web designers the opportunity to enhance their Web page graphically without needing a knowledge of HTML.

After creating a Web page, the Web publishing wizard automatically converts the page to standard HTML format, and then copies it to the Web.

Doug Richard, president and CEO of Micrografx, said, "The overall functionality of the program complements our strategic relationships with major manufacturers of digital cameras, colour printers and scanners giving real value for money."

Windows Draw 6 is available now priced £49.95 (inc. VAT) and is available from Micrografx or via distributors including PC World, Dixons, Byte and Frontline.

The Premier Edition is comprised of: *Windows Draw 6*; *PhotoMagic 6*; *Micrografx Media Manager*; *Instant 3D* and 20,000 pieces of Clipart.

HotDog Video

Sausage Software has announced the development of a new supertool which will enable *HotDog Professional 4* users to add audio and video to their Web sites. Users will be able to download the RealAudio/RealVideo supertool and use it to add streaming multimedia to his or her site.

Bruce Jacobsen, President and CEO at Progressive Networks, the company with whom Sausage Software recently signed a co-marketing agreement, said:

"Sausage Software is listening to Web developers and ↗

Exhibition update

December 3-4

Java'97

Networking Exhibition and Conference

Olympia, London
Tel: IT Events,
01256 381456.

5-7

The Christmas Computer Show
Olympia, London
Tel: Precision Events
0181568 8374.

8-12

Internet World '97

Jacob K. Javits Centre
New York, US
Tel: 00 1 800 632 5537

9-11

Online

Information '97

National Hall
Olympia Conference Centre, London.
Tel: 01865 288 000.

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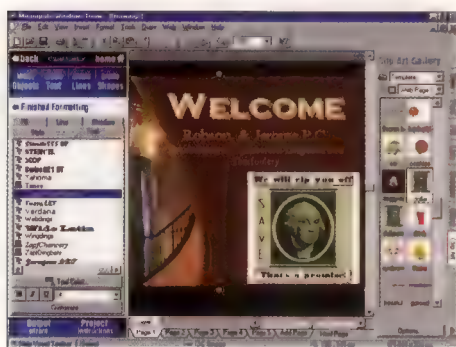
FS 33627

✦ providing them with what they want – the ability to make adding streaming audio and video to a Web site as quick and easy as file-'n'-print."

The Supertoolz plug-in architecture is a key feature of the new *HotDog Pro 4* Web editor. Supertoolz are separate programs that add extra functionality to *HotDog Pro 4*; they can be downloaded from the Internet and installed

instantly and as plug-ins can be developed much faster than full-blown applications.

Sausage CEO Steve Outtrim said: "The Supertoolz API is publicly available from our Web site, so third-party developers can now seamlessly integrate their own programs with *HotDog Professional 4*. They get instant access to a massive user base of Web developers, who are much more likely to click a



Make your Web site come alive with Sausage Software's new supertool

button inside their Web editor than download, install, and learn to use a stand-alone program."

The Supertool will be free to all those registered to *HotDog Pro 4* and can be downloaded from the Sausage site (www.sausage.com)

Peapod Internet

Peapod Internet, a division of the Peapod Group, has developed a cost-effective high performing Firewall for small to medium-sized businesses, branch offices and departmental users.

Secure computing's *NT2 Plus* Firewall for NT is a new Firewall designed to be the most secure and easy to use in its class. It provides a solution for small businesses faced with the challenge of information security. *NT2 Plus* boasts a cost-effective security solution on a native NT environment that is easy to install and administer, while providing robust security and high performance.

Chris Durnan, managing director of Peapod Internet, said, "Protection of information is an important aspect of any business environment. In the wrong hands, a company's information can result in financial loss or other adverse consequences."

The Secure Computing *NT2 Plus* Firewall provides protection from most common attacks, including IP spoofing, ICMP Redirects and Port Scanning. The product also includes the NT Security Scanner for inspecting the network and detecting vulnerabilities in the overall network configuration, user accounts and other settings.

Peapod Secure Computing *NT2 Plus* Firewall is priced at £1,595 for unlimited users. For further information, contact:

Chris Durnan, Peapod Internet Limited,
Telephone: 0181 606 9924 or e-mail: chrisd@peapod.co.uk.

Share your Secrets

An improved version of the desktop security program *Secrets for Windows* was released in October giving users added security and the ability to encrypt e-mails to other people who are without the software.

Secrets for Windows 1.3 from Sapher Servers Usable Security Software addresses the problems desktop users face regarding the storage of data files on PCs and networks and also with the use of e-mail to exchange sensitive communications. *Secrets for Windows 1.3* contains the strongest 1024-bit RSA Public Key cryptography and triple-DES encryption and integrates with *MS-Mail*, *Exchange*, *Outlook* and other MAPI compliant e-mail.

A new and unique feature of the latest *Secrets* package is the Self-decrypting executable feature which enables you to send encrypted files to non-*Secrets* users.

Secrets for Exchange is a new feature of version 1.3 which enables you to endorse any e-mail message with your own 'digital signature' to prove to the recipient that the message came from you and has not been altered in transit. *Secrets for Exchange* can also encrypt an e-mail message and any attached files before it is sent to ensure that the contents cannot be disclosed to any unauthorised persons in transit. Upon receipt, *Secrets for Exchange* will decrypt the message automatically upon opening.

The package includes *Secrets for Office* which comprises macros for applications such as *Microsoft Excel* and *Microsoft Word*, enabling you to integrate security into the applications used every day making encryption and decryption as easy as opening or saving them.

Secrets for Windows is available at £150 per user and can be ordered from Sapher Servers Web site (www.sapher.co.uk).

Cold Fusion

UNIX-based Web developers can now build applications for the Sun Solaris Web server thanks to *Cold Fusion Application Server 3.1* from Allaire.

Cold Fusion, previously only available for Microsoft Windows NT and Windows 95, is a leading application development system for the Web which is significantly faster and more powerful than first generation CGI or Perl application development.

Cold Fusion 3.1 enables Web developers to integrate browser, server and database technologies into powerful cross platform Web applications for the Intranets, extranets and the Internet. It has been adopted by thousands of major corporations, government agencies and corporations powering everything from online stores to sales automation systems.

Allaire's support for Solaris is part of a strategic commitment by the company to make *Cold Fusion* a cross-platform development system. Applications created with *Cold Fusion* will run on any browser and can be deployed on the major Web platforms on Windows and Solaris.

"Developers using SPARC Solaris have predominantly programmed Web applications with non-commercial languages and technologies like Perl and CGI," said Adam Berrey, director of product marketing at Allaire. "*Cold Fusion* gives these developers an easy-to-use system for rapid Web application development, and creates the opportunity for a whole new generation of Web applications on Solaris servers."

A pre-release version of *Cold fusion* for Solaris 2.5.1 and higher is now available for a free 30-day evaluation from the Allaire Web site. The shrink-wrapped version, is priced at £729 exc. VAT. It can be ordered directly from Unipalm on 01638 569600, or by visiting www.unipalm.co.uk. ●

Exhibition update

January 29-30
European Macromedia User Conference '98
London
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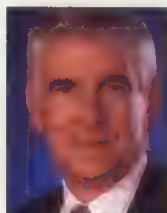
CASE STUDY

This section shows you what to do and what not to do on your site, by stripping bare the industry's most popular and innovative Web sites and revealing a few of their secrets

Microsoft

A late developer?

Microsoft has an Internet marketing budget of £15m a year. **Sharon Marshall** shows you how to benefit from some of its experience.



Robert Herbold, Microsoft's chief operating officer

Internet take-up

Microsoft is hoping the explosion of the Internet will prove as rapid as that for TV and radio in the UK.

1923 – 3% of households had a radio

1925 – 10% had a radio

1930 – 52% had a radio

1948 – 2% of households had a TV

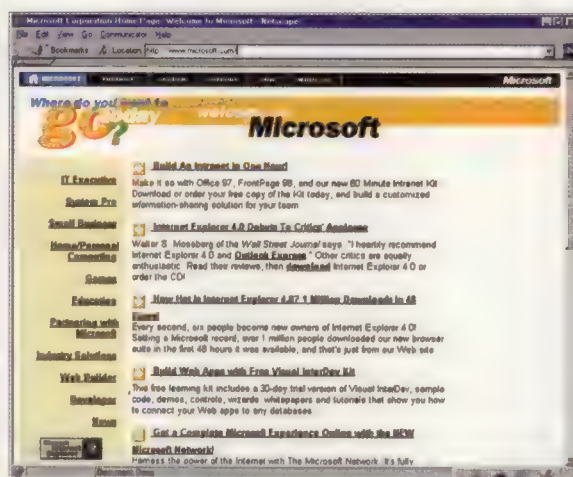
1950 – 11% had a TV

1955 – 67% had a TV

1994 – 3% of households had online access

1996 – 10% had online access

By 2001 – Microsoft hopes the figure will be somewhere in the 40% to 50% region



Microsoft was late to realise the potential of the Net as a marketing tool, but it is making up for this now, putting the Web at the centre of its marketing strategy and exploiting its potential as the next mass media.

The next year will see Microsoft (www.microsoft.com) become the biggest single online advertiser as it increases its Web budget by 70 per cent. It also wants a reassessment of the way we use Internet technology, saying it could transform marketing practices and communication.

The amount spent today on online advertising is tiny in relation to the mass budgets thrown at TV and print media. Last year companies spent a total of £218.7m globally on the Web, compared to the £23.8bn invested in TV advertising.

Microsoft's own budgets reflect this view of the Internet as a fledgling media. Last year its global advertising budget was £165m. Of that, £62.5m went on TV advertising and £87.5m on print advertising. Just £15.1m went on the Web.

While its TV and print budgets will be upped by just seven per cent over the next year, the massive 70

Microsoft's own Web site is probably the best known advert on the Web

The past 12 months have proved the worth of the Web to Microsoft

per cent hike for the Internet shows the past 12 months have proved the worth of the Web to Microsoft. The firm says it is feasible that within the next decade its Web budget could be higher than its TV spend.

One of the main reasons for the drive is the arrival of Robert Herbold as chief operating officer. He joined in November 1994 from his role as vice president of information services and advertising at Procter & Gamble. In return for a rumoured pay package worth \$1.6m, including a welcome gift of \$250,000, Herbold has made Microsoft realise the marketing potential of its products.

Herbold has always looked ahead in terms of advertising. At Procter & Gamble three years ago, he wrote a ground-breaking speech for P&G's chairman-CEO Ed Aartz. It warned that the industry needed to embrace the potential of new media and be prepared for massive changes in the way in which it advertises. Herbold was advocating interactive TV rather than the Internet at the time, but he is now equally evangelical about the marketing potential of the Internet.

Herbold says experiments with online advertising, such as the Expedia site (see box, right), throw much of the marketing thinking taken as gospel at P&G out of the window. "If I put my old P&G hat on, product promotions are a waste of money. They move a lot of dollars, but if you look at the productivity, you are often very disappointed."

A four-week marketing programme that can more than double response rate and retain 85 per cent of customers after the promotion has finished is unheard of in the consumer arena, he says.

Proving just how many people took up an offer as a direct result of a promotion, or how many were interested by the advertising in

Last year's Web spend



Last year's total Web spend was £218.7m, with studies saying it will grow to over £375m next year. Microsoft was the world's largest Internet advertiser, spending £15.1m over the last 12 months.

Intel will outspend Microsoft next year, with a £46.9m budget, but this will be split between a myriad PC makers, rather than used to create a single identity.

The next biggest advertisers are IBM and search sites such as Yahoo! and Excite, who spent around £7m each last year.

magazines or in commercial breaks, is difficult. With the Internet, it is known instantly how many people have looked at an ad, clicked through for more information, and took up an offer. "It is very exciting to see the measurability and the accountability for this marketing method," he says. "You can change and implement marketing on the fly."

Herbold says the key to using the Net successfully for marketing is to identify the audience and its needs. The UK industry is still in its early stages of Web-awareness, with a

tendency among UK firms to throw a corporate brochure up on the Web and consider the task done.

Microsoft is using the Web for product-specific advertising aimed at its PC and Web-savvy customers. Brand-building campaigns aimed at a wide audience will continue to be advertised on TV and in national papers, reaching a broader audience.

But specific products, such as its Web page building tool *FrontPage*, will be advertised solely on the Web as its target buyers are already experienced Web users. Microsoft

BackOffice will also be targeted more through Web ads on relevant sites to existing PC users, although this will be supplemented by print ads in the specialist press to reach IT pros.

For firms that have more general consumer products, embedding hotlinks into relevant sites or flashing banner ads on general interest Web pages will drive consumers to online ads, says Herbold. Microsoft's own Web site is being used as a marketing tool, putting a Microsoft slant on product information and advice.

To make the Net a mass media, though, Herbold says that software must become easier to use and low-end hand-held devices and Web-ready systems for the home must be developed to make Web access easier. "There's a hope on the part of Microsoft that this will lead to the emergence of the next mass media."

"In the years to come you will be carrying around a device that will make it easy for you to connect up to valuable information during the day, whereas today you might have to buy a newspaper, watch the news or call your broker. But the spectrum needs to be filled out," he says.

A drive is needed in the industry to develop and market the infrastructure and introduce a more "reasonable" pricing system for telecommunications, says Herbold. "If we are successful, then I can see a world where people behave quite differently during the day as to how they gain information. And that will all be through online technologies."

Herbold is a man who knows where he wants Microsoft to go. And with a £25.7m bet behind it, the company is clearly willing to back his latest marketing vision. ●

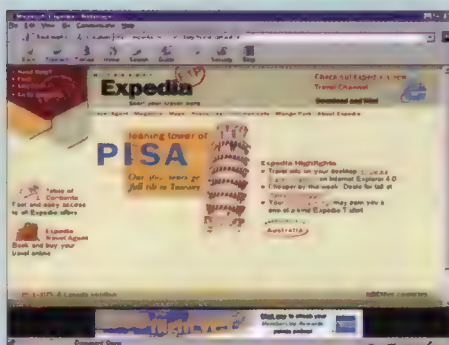
Travel with Microsoft

Expedia is Microsoft's online airline booking site, offering California and US residents cheap booking deals. Microsoft has been experimenting with banner advertising on the site, and Herbold says the tests have proved the Net can provide rapid results for marketing programmes.

In the first four weeks of the marketing programme, Microsoft ran banner ads under the theme of 'Great vacation locations' linking to sites advertising holiday resorts such as Arizona. Of the people who logged into Expedia, 1.3% clicked on to the resorts banner – a take-up in line with most marketing promotions.

After four weeks the banner ad was changed, and instead Microsoft advertised a guarantee of the lowest rates between two cities. The transfer rate went up to 2.8%, improving productivity of the marketing programme by more than a factor of two.

Microsoft has since linked up with American Airlines, introducing flashing banners and offering a 50% discount off every second ticket bought. Herbold is bound by American Airlines not to release figures from this promotion but does say that booking rates "improved significantly". Of those people who did click on to the advert, 85% continued to visit the



Book a ticket to Italy via Microsoft's Expedia site advertising site after the promotion had ended to check out other offers.

"The most incredible thing is that we can measure all this, and we can measure these programmes within a matter of weeks, not months," Herbold says.

Later tests on the site will work on improving the quality of the banner advertising. Flashing banners are very intrusive, and Herbold says these help draw customers into the site. Also under consideration are embedding hotlinks to the service and a Web-based travel journal.

Anything

www.FutureNet.com

Travelocity

Round the world on the Web

With Travelocity you
can book your
holiday in minutes.
Marcus Austin
examines the risks

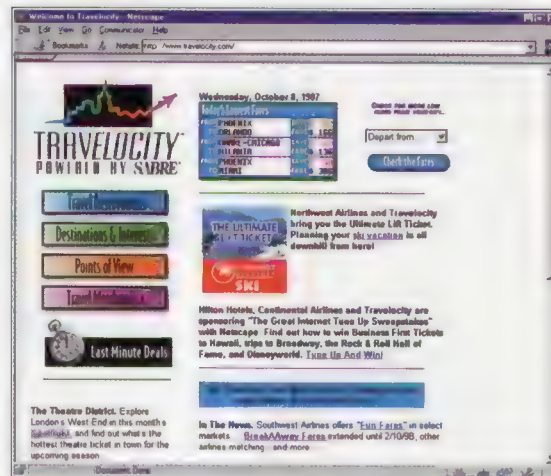
You'll have to do a lot of work and spend a considerable amount of money to make a better site than Travelocity (www.travelocity.com). Although not everyone will have the huge budgets that SABRE – one of the world's largest real-time database companies – spends on its site, it's worth taking a look at to see how the company has integrated a simple database transaction system with a complex information service that keeps users coming back time after time.

Travelocity has its roots in the EasySABRE booking system launched in 1985 on CompuServe and has existed as an interactive online site in the US since April 1996 (and globally since September 97). It's used by more than 32,500 travel agencies in the US and handles an annual £62.5 million pounds revenue per year (one third of the world-wide booking share). The site enables you to book scheduled flights, including choosing your seat and meal types, book hotels and arrange car hire with over 400 airlines, 36,000 hotels and 50 car rental companies.

The features that make the site unusual and make you want to keep coming back include a wealth of peripheral information. SABRE could have just left the site as a simple input-your-travel-details-and-we'll-print-out-the-lowest-price-then-

The nuts and bolts

The US system behind Travelocity employs three Silicon Graphics servers: a Challenge L and S and an Origin 2000S, plus three T1 lines. The company also uses the database Oracle 7.0 and Netscape Commercial Server software.



input-your-credit-card-details-type site. But instead it's added lots of relevant information like editorial pieces on the nightlife, restaurants, exhibitions and shows that are happening when you're at your destination. Allied to this are live chat forums and message boards to put your views and questions to other travellers.

Destination: Easy street

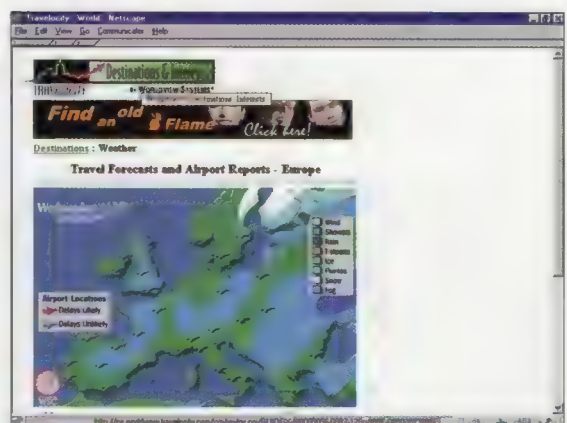
Other unique features include a low-fare special that chooses the three lowest priced fares to a destination of your choice, last-minute travel details, the SABRE Atlas, which finds the closest airport to a given city, and hotel maps and photos. There's also a continuously updated travel guide magazine that gives you a complete events guide to more than 22,000 destinations.

The site makes extensive use of e-mail contact. You can register a particular route you use regularly, and Travelocity will e-mail you when the price falls by more than £15.

The whole US system is based around three Silicon Graphics servers, a Challenge L and S, and an Origin 2000S running under the Irix 6.2 operating system. More systems will be added as the system becomes more localised. The database used is Oracle 7.0 with Netscape Commercial Server software dealing with the requests from the browser, which is all sent out to the Net via a backbone Net connection consisting

Travelocity is not just a seat Booker, it's an online Travel Guide

Travelocity also shows you where delays are due



of three T1 lines. But you need this type of system when you're dealing with 5,500 transactions per second and 15 million page hits a day.

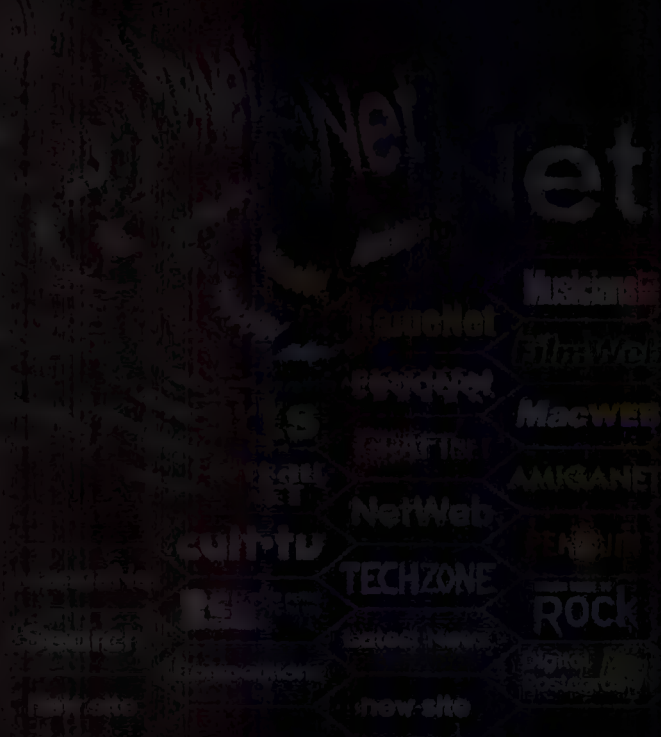
The three servers deal with separate parts of the system. The Challenge S deals with the home page requests, and is updated twice a week with new features for the travel guides. The Airline schedule information is updated once a day, and late travel availability is pulled from SABRE's main server five times a day, the actual seat-availability booking system is real-time.

Surprisingly, the whole system has only had a few minor pitfalls. One peculiar error involved frequent duplicate bookings from customers using the site. It was only when they watched a customer using the system that they realised that people were used to double-clicking on icons in Windows 95 and were doing a similar thing on the booking forms. A common criticism from customers was that they were never sure how far along they were in making a commitment to buying – they were scared that they'd already paid for a ticket and not noticed it.

Interestingly, SABRE actually left much of the detailed interface design until the site was up and running. It employs a quick-hit team of 10 people to answer the 300 e-mails a day that it gets suggesting improvements to the site. This is in addition to the staff of 50 programmers and 50 Web designers who eat up over £6 million a year in development costs. ●

100% FREE SAILING SEARCH DAILY NEWS NEW SITES GAME
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 FOOTBALL INTERACTIVE COMPETITIONS SPONSORSHIP HITS
 MULTIMEDIA ABC TUTORIALS ROCK MUSIC FOOD AMIGA
 PERSONAL LIFE SUBSCRIPTIONS STITCHING MACINTOSH TV
 COUNTRY MUSIC BUYING SPORT KNOWLEDGE WEB SITE
 DATABASE PHOTOCONSULTANT CLASSIC CD TECHNIQUE RPG
 GARDENING CHANDLERYCE ANIMATION FORMAT PLAYSTATION
 FANTASY DESIGN GUIDES CREATIVE MAGAZINES WORDS
 WORLD CUP CINEMA PUBLISHING HOT
 FUTURE INDEPENDANT COLOUR SOUND
 NINTENDONET NINTENDOTRAVEL MONEY LARSEN

Everything



www.FutureNet.com

Interactive Investor

Corporate investment

Putting your business' money to good use has never been easier, says **Marcus Austin**.

Interactive Investor is one of the classic success stories of the Internet and it's a perfect example of how a company can find a lucrative niche market through the back door. The original intention for the site was for it to be simple and informative about specific investment needs, designed for a select range of customers as an additional value-added service.

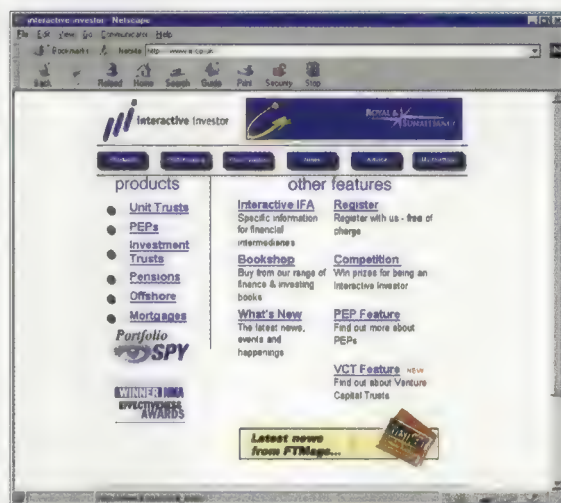
The site has been up and running for nearly two years and has now turned into one of the best corporate investment sites on the Web. It attracts 100,000 readers per month, of which 40,000 are regular visitors, and has a potential world-wide audience of millions.

The site has also created a lucrative Web development and advertising arm to the company; in fact, the site and the team of 20 programmers is now funded purely by advertising and Web development revenue, pretty good for a company of only 35 employees. The advertising slots are already 80 per cent full and that's all done without advertising the site – or actively selling the advertising spaces; most of the sales are from a few digital advertising agencies.

All advertising is generated either by word of mouth or from articles published in various newspapers and magazines.

The site enables you to do some nice things that most static-based systems can't. There's a section that enables you to graphically view stock prices over a one- three- or five-year time period – something you can't do from the prices in the FT. You can create views on a portfolio of shares and link to companies to buy more shares. In future you'll be able to do this straight from the company's site and the cost savings should be phenomenal. If you buy shares at a high street bank, the transaction will typically cost them around £8, by phone to a broker it'll cost £5, but by the Internet, costs will be as little as 10p-20p.

The most popular part of the site has turned out to be the section that offers information on the most popular investments; the information for this is based dynamically from the site's own log files. And this is pretty much the only feedback that Interactive Investor gets as the registration information amounts to little more than a name and e-mail address. It



Interactive Investor started as a Service to a few connected investors...

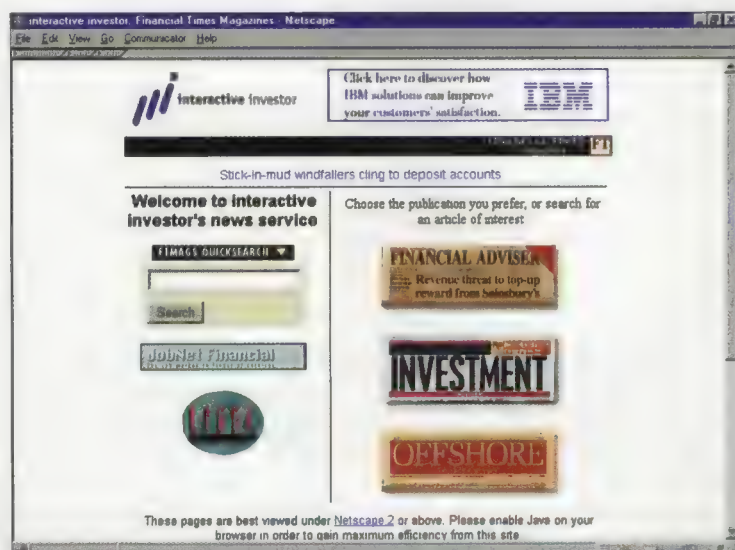
does, however, hold weekly focus meetings for clients where it receives direct hands-on feedback.

Although the site is currently moving to an Oracle database and Sun server-based system, for the last two years the site has quite happily run on standard downloadable shareware, with up-times in the 98-99 per cent mark and no bottlenecks or disasters. However, it won't be severing ties with shareware completely as it only plans to use Oracle as a back-end database system rather than a database server.

The site runs on three Sun Ultra servers in various different locations but it's moving to six servers soon as the company plans to treble its hits in the next year. The server system follows a traditional pattern: one server is used as the development system, one's a live server and linked to the company's 1Mbit Internet connection, and the final server mirrors the live server and tests the Alpha test software.

Interactive Investor can be found at www.iii.co.uk

... but its success has attracted a few well-known business names



The secret of their success

Interactive Investor's Web site runs on:
Three Sun Ultra servers (but will be moving to six servers soon)
Shareware software with Oracle as a back-end database system
1Mbit Internet connection

PC FORMAT FORUMS SAILING COMPOSERS RECIPES MANGA
 X FILES SAILING SEARCH DAILY NEWS NEW SITES GAME
 INFORMATIVE ADVERTISING MBUK TECHNOLOGY FILM T3
 REVIEWS GUITARS COMPUTER ARTS ON-LINE CHAT MUSIC
 FOOTBALL INTERACTIVE COMPETITIONS SPONSORSHIP HITS
 MULTIMEDIA ABC TUTORIALS ROCK MUSIC FOOD AMIGA
 PERSONALITIES SUBSCRIPTIONS STITCHING MACINTOSH TV
 CHANNELS CARS BUYING SPORT KNOWLEDGE WEB SITE
 DATABASE PC CONSULTANT CLASSIC CD TECHNIQUE RPG
 ORDERING EMAIL ADVICE ANIMATION FORMAT PLAYSTATION
 FEATURES ROUGH GUIDES CREATIVE MAGAZINES WORDS
 HOW TO CYCLING WORLD CUP CINEMA PUBLISHING HOT
 WINE GUIDE ARTS FUTURE INDEPENDANT COLOUR SOUND
 INTERNET MINTENDQ TRAVEL HONEY LARDER
 CREATIVES ROUGH GUIDES
 HOW TO CYCLING WORLD CUP CINEMA PUBLISHING HOT
 WINE GUIDE ARTS FUTURE INDEPENDANT COLOUR SOUND
 INTERNET MINTENDQ TRAVEL HONEY LARDER

It all becomes clear

FutureNet

GameNet

FoodNet

CRAFTNET

NET

FreeNet

cult-tv

pc

Search

new site

Musicians

FilmWeb

MacWEB

AMIGANET

PENQUIN

ROCK

Digital Postcards

TECHZONE

Latest News

Competitions

new site

www.FutureNet.com

Megastar

Starstruck: news on the Net

Girls, sport and lager:
Dan Oliver looks at
the Daily Star's site.

The Daily Star's new site, launched in September and entitled Megastar (www.megastar.co.uk), enables you to check out news, features and sport. Should you be in need of a break, you can always go and visit the virtual reality bar.

With the backing of Express Newspaper Group, hundreds of thousands have been invested in the new site. However, editor Dennis Greene is quick to put this in perspective: "We have spent thousands getting this site up and running but it's nothing like the money LineOne spent, proving that you can't buy success."

The six-man team has been



brought together from various areas in an attempt to harness strong editorial staff with talented Webmasters. Brad Rees, founder of the Anorak Web site, played a vital role in establishing the look and feel of the sites, along with ex-Channel Cyberia Webmaster, Darinda Martin.

The virtual bar is set in one of the darkest alleys you're ever likely to stumble down

Emphasis has been placed on advertising using the NetGravity Netscape 4 server, which enables Webmasters to update banners regularly and also gives advertisers information on how many people are seeing and responding to ads.

To design the site, the Megastar team used NetObjects Fusion 2.0, a click-and-drag program that enabled the team to design a Web page much in the same way as it would if it was going to print.

Using a Sun Ultra 1 Netscape Enterprise 2.1 Web server has given the team plenty of power – essential with 170,000 impressions a day.

With the Daily Star using both Macs and PCs in its editorial section, there have been problems finding a design package that can convert both formats into HTML and the team is converting all the text manually. However, NetObjects will address this in its latest version. ●

Bookpages

Virtual book buying

Bookpages offers an easy way to buy, says
Iain Thomson, but can it beat the real thing?

Bookpages (www.bookpages.co.uk), has offered a choice of 900,000 books via its online bookshop for a year now. It will soon be expanding to include customised viewing pages and a customer loyalty scheme – a first for this market sector.

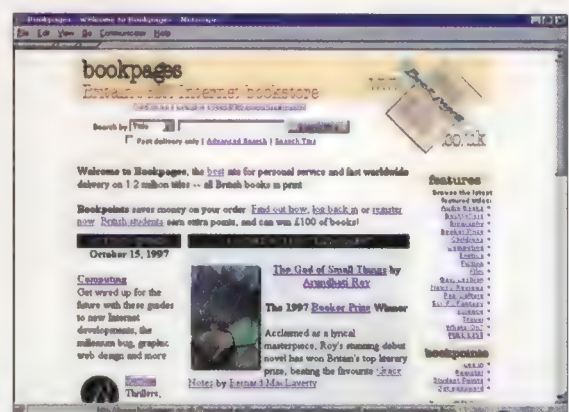
The site grew out of Triptych Systems' existing experience in designing search and EDI software for the book-selling industry. The company, based in Berkshire, set up the Web site over three months, using two teams to test and adapt the software as needed.

The company also hired Lisa Grant, who had been employed by both Dillon's and Waterstone's, the

idea being to bring a retailer's experience to the Web site.

The site is run on 200MHz Pentium Pro PCs with 256Mb RAM and 16Gb hard drive plus Windows NT. MIS Server software is used with the SQL Server database. Active Server pages from MIS are featured, plus order security from Microsoft's Internet Information Server, which supports Secure Socket Layer 3.0.

The search engine, Skelter, was developed specifically for this market. It has all the usual features, including keyword, subject, date and Boolean searches combined with AND, OR, and NOT commands. Page downloads are rather slow but this is due to an extremely graphics-



Customised viewing pages make buying your books a novel experience

heavy front-end and the system design, which builds each page to suit each customer's preferences. Books arrive, on average, 48 hours after purchase.

Bookpages is proving to be a very successful site with over 85 per cent of users happy to buy over the Internet. However, customer loyalty schemes may prove an effective pull, but high street bookshops will still be around for some time yet. ●

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ADWEBS UK BRONZE SITE

Consisting of two pages of information (about two sides of A4), two images, text, e-mail response, animation and one hour per month allocated, free, for web site maintenance (i.e. changes on visuals and text).

Hours cannot be carried over.

A one off web site build cost of £445.00.

£50.00 per month hosting/advertising cost.

Lead time 3 days.

ADWEBS UK SILVER SITE

Consisting of four pages of information (about four sides of A4), four images, text, animation, one day consultation on customer requirements, customer's own domain name (WWW address - worth up to £200.00). Plus, e-mail response form and two hours free web site maintenance (i.e. changes on visuals and text) per month. Hours cannot be carried over.

A one off web site build cost of £1,995.00.

£55.00 per month hosting/advertising cost.

Lead time 2 weeks.

ADWEBS UK GOLD SITE

Consisting of six pages of information (about six sides of A4), six images, text, animation, one day consultation on customer requirements, customer's own domain name (WWW address worth up to £200.00). Plus e-mail response form and four hours free web site maintenance (i.e. changes on visuals and text) per month. Hours cannot be carried over.

A one off web site build cost of £2,995.00.

£60.00 per month hosting/advertising cost.

Lead time 3 weeks.

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WHERE YOU CAN BE FOUND ON THE WORLD WIDE WEB

GOD

The road to Net heaven

GOD has become a profit-making company in only a matter of years and with minimal advertising. *Marcus Austin* looks behind the scenes of the Net's new deity.

GOD may seem like a strange name for an Internet site but it's worked very well for Global Online Directory. An initial marketing campaign – 'GOD is on the Net' – some contra deals with two large American companies and a revamp of the site have resulted in an incredibly successful site with over 2.4 million hits a month.

GOD was launched on January 24 1996 as a simple Web search engine. GOD had looked at its competitors and decided that quality rather than quantity was what people wanted when they searched the Net; the likes of AltaVista and EXcite are all well and good if you have hours to spare to search through every conceivable site that contains a particular search word, but most people just don't have the time.

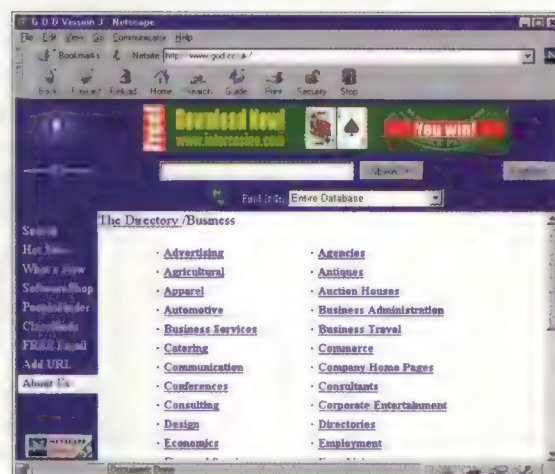
As Paul Myers, GOD's director, says, "the novelty has gone for most people; now they just want to use the Net". GOD also wanted to build up loyalty to the site and this is where Myers' background in producing campaigns for superstore loyalty cards came in useful.

To maintain the quality of the URL database, GOD throws out one in every five URLs submitted. There are two people continuously checking the new URLs for relevance, they also check the site descriptions for spelling, irrelevant categories and any additional cross-references. It uses Internet spiders to check the

links to each site regularly; if a link is labelled as bad, it's put into a pending folder for four days and checked occasionally. If the site reappears, then the site is added back to the database; otherwise it's put back in the pending folder.

The spiders were originally going to be used by the site as a means of adding to the database, as much of the early work for the site was done in mid-1995 with the University of Colorado's 'Harvest Project' (<http://harvest.transarc.com/>), which pioneered the use of Internet spiders. But GOD realised spiders were best for simple fact checking rather than gathering information.

The 128 thousand hits a day that GOD receives, together with the publicity of the initial launch, has enabled GOD to become a self-financing profit-making company in just a few years. The hits have brought very large advertisers to the site, as well as attracting the interest of the US-based Four11 Corporation, which wanted to add its additional services to the site so it could take advantage of GOD's 128 thousand hits. This in turn should increase the number of hits to the site. The initial



Diversification is the key to God's success. From a simple search engine...

...to a software shop

publicity for the site and the continued word-of-mouth hits mean that GOD hasn't needed to advertise the site since the initial setup.

But not everything has been as straightforward. The initial site version used an Oracle database as a back-end to the site, with a purpose-built front-end to serve the Web requests. Lack of communication between Oracle and GOD meant that a lot of work could have been avoided with one of Oracle's Internet server products. Initial hits to the site were so successful that the bandwidth had to be doubled.

Version 3.0 of the site has dispensed with the Oracle database and includes a system developed using ObjectStore from Object Design. The added functionality and speed that ObjectStore provides means that users can search for multiple keywords without suffering from a much reduced throughput.

The site runs on a Sun Sparc 1000 with two Sparc 20 systems running Solaris 2.5.1 for backup and development. The server software, in addition to ObjectStore, is Netscape FastTrack, which runs server requests over a 2Mb line via BTNet.

The software shop is the latest addition to GOD. It takes software written by budding entrepreneurs who don't want to be swamped by big business and serves it directly to you via a credit card system. Who said UK industry was slow at exploiting the Net? ●

The facts

GOD uses the following software: **ObjectStore** from Object Design, **Solaris 2.5.1** from Sun and **Netscape FastTrack** server. The hardware includes a Sun Sparc 1000 server with two Sparc 20 systems.

GOD can be found at:
www.god.co.uk



AdHunter UK Ltd

A force to be reckoned with?

The regional press has banded together to create the Internet's largest advertising database in the UK.

Jemma Wheeler investigates.

The regional press is rarely discussed in Internet circles; in terms of news, it is no threat to the online dailies, and as far as advertising revenue is concerned, it is too small to worry about. But with more Web sites offering classified ad space, local newspapers are keen not to get left out of the picture.

With the creation of an open consortium, the regional press is about to make the Internet business community sit up and take notice. Alone it may be small, but together these papers are a force to be reckoned with.

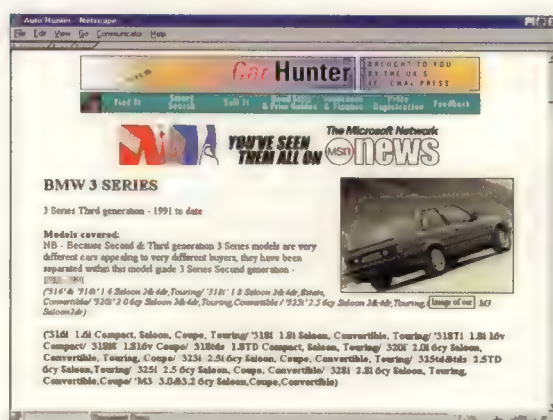
AdHunter UK Ltd is the product of some serious brain-storming within meetings such as the Regional Press Association's New Media Forum. The company formed in February 1997, and by March it had launched its first Web site.

Being an open consortium, its growth potential is only limited to the number of regional newspapers in this country, and it has formed the UK's largest Internet-based advertising database. The members of the consortium include Northcliffe Newspapers Group, United Provincial Press, The Guardian Media Group and, most recently, the London Evening Standard.

The consortium represents 60 per cent of all newspapers circulated in this country – that's around 37 million newspapers a week. This means that the consortium controls 70 per cent of the classified

Where are they?

You can visit AdHunter's four Web sites at:
www.adhunter.co.uk
www.autohunter.co.uk
www.jobhunter.co.uk
www.propertyhunter.co.uk
 (propertyhunter will be available in the fourth quarter of this year)



advertisements placed in 560 daily and weekly newspapers.

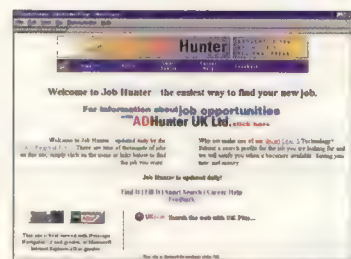
Marlen Roberts, managing director of AdHunter, explains that her company was aware of the need to move with the times: "With the advent of new technology some people have lost jobs, but many other jobs have been created. The same goes for advertising revenue; some has been lost, because of developments such as the Internet, but the Internet has created new opportunities for new revenue sources. So it's more a case of switching where revenue comes from and it looks likely that the overall net total will increase."

The sites have been developed in conjunction with ICL Technology. AdHunter soon realised that sites such as these were going to generate a lot of traffic, so it knew it needed a technology partner to help it along the way. ICL provides and maintains high-speed links and fast information delivery times, regardless of how much traffic is being generated. It also carries out on-going upgrades to the sites as new software becomes available.

The first to launch, in March this year, was **autohunter**. As well as containing entries on 400,000 cars every week, the site offers advice on road tests, links to local garages, and

(Above) For excellent advice on over 400,000 cars, visit [autohunter](#) (Above right) [jobhunter](#) hosts 150,000 job ads every week

***Together
these
papers
are a
force
to be
reckoned
with***



price and insurance details. You can search by model, price or area.

Next to go live was jobhunter. Currently hosting 150,000 job ads per week, which you can search for on a local, regional or national basis, the site offers advice on writing your CV and attending interviews, news on the job market and information on large corporations such as personnel office contact details.

Each site has a smart search facility. If, after searching for a specific car, job or property, there isn't a suitable match, you are given the option of registering your details so that the system can conduct a daily search until a match is found; the results are then e-mailed to you. You only need to go to the site once.

The Web site was created on a pair of Sun Ultra Enterprise servers with single UltraSPARC 167MHz processors, 192Mb of RAM and 8Gb of hard disk space on each system. AdHunter's IT manager Simon Hurst described the system as being the best you could get. While one server is used to do the general Web site design and maintenance and staging of the system, the other deals with the live requests. Both use *Netscape Commerce Server*, and Verity's latest search engine software running on *Solaris 2.5.1*.

All the Web pages are hard coded by hand on a variety of PCs and Macs. The development team took three months to produce the initial Autonet site and a further nine months to produce the rest. The actual site is connected to the Web through ICL's huge Internet backbone connection, which effectively gives 'bandwidth on demand' for the various Hunter sites – a situation of which many other companies would be envious. ●

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@WORKS

The @WORKS section is designed to make your Web site design and administration as easy as 1-2-3. We split the Internet into six different sections: Internet, InternetPro, Webmaster, hints and tips, step-by-step and Q&A, all aimed at different aspects of the Net and at different levels of ability.

50 Virtual money matters

Do you want to buy or sell over the Internet? We investigate all the options available and tell you the best method for your company

56 Standing out from the crowd

Make sure your company's Web site gets noticed. We tell you everything you need to know to maximise your click-through rate

60 Webmaster for sale or rent

We give you the low-down on recruiting a Webmaster, from the requirements to look for to how much you can expect to pay

64 A searching question

Instantly index your Web site and make it searchable by anyone. We look at the search engine solutions available

68 10 ways to speed up your Web site

Give your Web site a turbocharged boost with our ten-point service plan. Our fully-qualified Web engineer Karl Dallas shows you how to check your points and change the oil

70 Questions & answers

We look at some Webmasters' frequently asked questions and provide a complete set of answers

12-point action plan

- 1 Choose your site type
- 2 Allocate a budget
- 3 Choose a name and check its availability; register the name
- 4 Select a service provider
- 5 Position your site
- 6 Decide on a Web site design and launch strategy
- 7 Choose a Webmaster
- 8 Choose an internal or external designer
- 9 Advertise your site to the Net
- 10 Test the site and analysis tools
- 11 Launch the site
- 12 Analyse your data



Allocate
Budget

Choose
Site Name



Does the Net confuse you?
Want to know how to get
started? Then read our 12-
step guide to Net profit

There's nothing worse in life than getting left out and left behind, and there's nothing worse in business than getting left behind by your competitors. It can mean an end to profits and possibly an end to your company.

The Internet is a new and potentially very profitable opening for most businesses, so it would be a tragedy if you were to let your competitors get the better of you. So follow our foolproof 12-point plan to getting on to the Internet and get the jump on your competitors.

Over the next few pages, we walk you through every step of building a Web site, regardless of how big your business, your budget, or your future plans are. Whether you want to create a single-page, two- or three-layer site, or a full-blown, interactive extravaganza, we show you the processes involved and the tools and the techniques you need. ➤

12 steps to Net profit

1 Choose the type of site you want

The first thing you need to do is decide what sort of site you want. Will it be a few pages describing your company, its services and products? Or will it be a comprehensive site that enables you to fend off some of those annoying support calls but still gives the customer some ability to contact you? Or do you want to put your whole business on the Internet, with a Web site that does everything from selling the product through to advertising it and demoing it with video and 3D walkthroughs?

2 Allocate a budget

Of course, the size of your site will depend on your budget: a small site will cost you anything from £500 to a few thousand, a medium-sized site between £3K and £30K, and a full-blown site can cost upwards of £30K.

A full-blown site can cost upwards of £30K

3 Getting a name

Next you need to choose a name for your site. Do you want a Web address that will be accessible from all over the world and recognised as a world-wide site, or do you want to associate your site with a particular country?

A commercial Web site that's accessible from all over the world should have a .com ending, while one that's just associated with the UK should end in .co.uk (there are also the lesser-known .plc.uk and .ltd.uk but these are rarely used by users when searching for Web sites). If you want your site to be aimed at a particular country other than the UK, say the Italian market, then you'll need to register a site ending in .it – each country has its own different domain name.

Once you've decided on a name – www.ourprod.co.uk for example – you need to check whether anyone

else has already registered it. If not, you can then register it. Use the Whois facility on the www.internic.net Web site if you need to check a .com address. If you want to check for more global sites, then use one of the many different domain name search engines on sites operated by site registration companies such as NetNames (www.netnames.net or phone 0800 269049) or Virtual Internet (www.vi.net or phone 0171 610 6610).

If your name is already registered, you could register with something like NetNames' Search and Alert service or Virtual Internet's Name Watch service, which alert you when names similar to your company name (or your competitors' names) are registered or released anywhere in the world. Names need to be re-registered once every two years and not all of them are, so you might be able to get the name you want at a later date.

The registration fee costs anything from £100 to £200 and can take between a day and a week to register. There are lots of different companies that register site names and it's a very competitive market, so shop around. Many of the companies are simply registration agencies and will only register your site name and hold the site details on their system.

If you aren't going to use the name for a while, then it's a good idea to look for a company that offers e-mail forwarding and provides some initial Web space. So should a prospective customer decide to send a speculative e-mail to sales@ourprod.com or look at www.ourprod.com he or she will be able to get in touch with you, rather than getting a bounced message or an error message.

4 Select a service provider

There's much to be said for the simple one-page site that lets customers place an order in a few seconds, then go about their business. This works especially well if your product or service is well known, as you don't need to spend pages telling the Web browser about your product and your users can get simple text-based information about you and your product. Any good Internet service provider (ISP) can handle this type of site, often for as little as a few hundred pounds a year.

But few businesses are so lucky, and most sites (just like shops) want

Choosing your Web tools

Site type	HTML experience	Tool
Small advertising site	None	1
	Some	2
	Lots	3
A simple multi-layered site	None	1
	Some	2
	Lots	3
Multimedia multi-layered site	None	4
	Some	5
	Lots	6
Your business is on the Net	None	7
	Some	7
	Lots	7

1 Home Page/PageMill

2 FrontPage 98

3 HotMetal Pro 4.0/Fusion/Webmaster

4 Employ a Webmaster + HotMetal Pro 4.0/Fusion/Webmaster

5 Employ a Webmaster + Visual InterDev/HAHT site + Macromedia Director + Photoshop

6 Visual InterDev/HAHT site + Macromedia Director + Photoshop

7 Employ a team – Domino/HIP/Visual InterDev/HAHT site + Macromedia Director + Photoshop

customers to browse the full range of products and services. A site that's continually changing and chock-full of graphics, sound and video will do this, but it requires you to look for an ISP with a bit more clout. Also, if you're going to use any special software or want to put mission-critical data on the Web site, you need to consider a leased line or placing your own server at the ISP's premises.

The first factor you have to think of when getting an ISP is support. Will there be someone there on a 24x7 basis to take your calls? Chances are that if something does go wrong it will happen at 2am on the morning before you unveil your Web site to the world. The last thing you want is an "all our lines are busy" message or an endlessly ringing phone.

In addition, check if the ISP backs up his server (and your site) regularly – can he just switch between servers should one fail? Are there dedicated modem lines for commercial Web site customers or do you have to fight with the rest of the ISP's customers? If there aren't, then you should always have another service provider as backup. You can then get to your site via the Web rather than through constantly engaged phone lines.

5 Position your site

If you're going for a small- to medium-sized site with a few frills, there are two other factors to consider: space and flexibility. A commercial Web site gobbles up anything from 2Mb to 100Mb or more, so make sure your Web host lets your site grow as needed. Most ISPs will let you start off with 5Mb of Web space and increase by 5Mb blocks. Others jump up in larger blocks, so you may find yourself paying for storing up to 100Mb of data when yours is only just over the previous limit of 25Mb.

The ISP should be flexible enough for you to add things like CGI scripts to take customer information and give you the option to swap to a secure server, handle credit card transactions, do simple add-ins like a video or audio stream, or even use Microsoft's *FrontPage* extensions to update your site at the click of a mouse button.

If you're going to tweak your site a lot and want to use lots of weird software such as your own database, you should consider a leased line or placing your server at the ISP's site. The best solution for a completely

flexible site is having a leased line straight to your server. This means you'll be able to use your own Mac, PC or UNIX box, load up your own software, add more disk space when you want, and run as many CGI scripts as you want.

The drawbacks are that you have to pay for all this software, install it, back up the machine, and, most importantly, judge just how much bandwidth you'll need, which is almost an impossible task (see the boxout 'Bandwidth' below). Ask any company that has chosen a leased line solution, and it'll tell you the first thing it did when going live was order an upgrade.

If you place your server with the ISP, you don't need to worry as much about bandwidth because you're using the ISP's bandwidth. Also, most leased lines are prohibitively expensive, especially if you're based away from one of the main Internet hubs, ie outside London or Manchester.

Setting up your own Web server, however, is a complicated process. You need adequate resources – both human and monetary. But if you post large interactive databases, have overriding security concerns, or expect traffic to your site to warrant the cost, setting up a server makes sense. It gives you complete flexibility and control, and many businesses discover that Web revenues more than pay for the cost of setting up and maintaining a server in no time at all.

6 Decide on your design and launch strategy

So now that you have your name and your site, you need to design it. The worst thing you can now do is go to the most IT literate person in the company and say, "Design me a site." This is where 99% of Web sites fail; a good Web site needs to be treated just like a new product.

First decide what your Web site browser wants – ask your existing customers as well as people who're on the Net, especially those who don't necessarily know anything about you or your product. Think how you're going to market the site. Are you going to advertise it on its own or are you gradually going to add the Web address to your stationery and ads? Do you want everyone to get entry to it via www.ourprod.com and search for the information they want, or do you put the tech support page as the

The Web is teeming with confusing, hard-to-navigate pages

site's main entry-point? Think of other things you can add to the site to make people come back again and again. A screensaver, game or new product news are all good ways of ensuring users don't just use the site once.

7 Choose a Webmaster

You now need to calculate if you have the expertise in-house to produce a site like this or whether you need to get an external Web designer. Keeping the design in-house means you have control over the site at all points, but this can be expensive in the long run. A Web design company will be expensive, too, but you're more likely to get what you want. The best solution is a hybrid Web design/in-house solution.

8 Internal or external design?

The good news for those who do choose to design in-house is that in a surprisingly short period of time Web publishing tools have become easier to use and more adept at building complex pages. But, as in the early days of DTP, design expertise hasn't translated straight into know-how with Web publishing tools. The Web is teeming with confusing, hard-to-navigate pages and new gimmicks. Don't let your site fall into the same trap.

A professional graphics designer isn't a magic bullet, either. The Web is a relatively new medium, and print-based designers aren't

Bandwidth

Bandwidth is the deciding factor between a good, fast Web site and an irritating mess. Think of bandwidth as the width of the road on to the Net – the larger the bandwidth, the wider the road and the more traffic you can get down it.

So the more users you want to come to your site, or the more bells and whistles you want to throw at that user when he or she visits your site, the bigger the bandwidth you'll need. However don't go completely mad on buying bandwidth; not everyone is going to be accessing your site at the same time, so most sites have peaks and troughs of usage. And even at peak times, not everyone will be clicking on the Download button at exactly the same time.

Most good ISPs let you have facilities to get more bandwidth as and when you need it, or will give you enough feedback to assess your bandwidth needs precisely. It's also common sense to discuss with your ISP if you're going to be expecting an unusual amount of calls to your site (hits), because you're launching a new product or are doing another publicity event, say.



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← necessarily adept at designing for the Net. Graphics, animation, audio and interactivity all offer new possibilities for a business to exploit. But these design elements also make punishing demands on hardware. You must use them in a simple and logical way, otherwise long delays will frustrate instead of entice customers. For more help on choosing a Web design company, see the boxout below.

9 Advertise
If you decide to create your own Web page, remember that the content you provide will dictate the design. There are plenty of packages that make assembling a Web page fast and easy, but none gives you as much control as an HTML editor.

If your site is to consist of more than a page or two, map it out first. A logical organisation will ensure that your site will be easy to navigate. You also need to think about how to get visitors there in the first place – that is, how to register your site with the Web's growing array of search engines.

Complex sites with advanced features need sophisticated tools. The best tools have wizards for producing simple multimedia and interactive elements. However don't assume that an expensive tool automatically means a great site. Some of the best sites have been produced by a team of

*Don't
assume
that an
expensive
tool
means a
great site*

programmers writing HTML using basic HTML editor programs.

For multi-page sites, you need to focus on site navigation, adding search capabilities and hooks to Web search engines, while for the most ambitious sites, you can add sound and customised apps.

10 Test your site
Now that your site is designed, you need to allow a long time for correcting any errors (debugging). Check your site thoroughly, get a site validation program to check the links, and check it with different browsers and on different platforms, with different screen resolutions. If you can, check it on a Web TV system as they are the poorest when it comes to screen resolutions and browser features. Give it to Net experts and Net virgins to look at – watch how they use it and listen to their comments.

11 Launch your site
Before launching your site there are a couple more things you need to do: pre-publicity and site analysis. Your site is like you – it won't work in a vacuum. People need to know it's there, so besides the options we've already discussed, you need to add your Web site address to the many different search engines on

the Net. AltaVista, InfoSeek, Yahoo! and Yell are all regularly used search engines, and your site details should be on all of them. You should also contact the owners of any Web sites that might be interested in a link. Plus, if you want to sell space, you should be approaching potential clients with demos of your great new site.

12 Analyse your data
Finally, you need tools to analyse your site's traffic (it's better to get them and test them before you start hitting the crisis time, aka "the launch"). Analysis tools help you shape future content and address customer complaints. Site analysis also provides invaluable marketing information: which pages are most popular? How did your customers find out about your site? This knowledge helps you refine your Web site and your business.

When your site is up and running, don't abandon it. A good site should be constantly evolving and changing, but not just for change's sake. There's nothing more irritating than a site that keeps changing its design so that it looks hip – some of the most useful sites are the dull, easy-to-navigate ones, where the FAQ section is always at www.ourprod.com/faq.html and the sales department can always be found at sales@ourprod.com ●

10 points to remember when choosing a Web design company

Here's a list from Creative Overload of 10 checkpoints to look out for when hiring a Web design company. For more details, look at Creative's Web site at www.creativeoverload.co.uk

1 Do you produce all the design work in-house?

A good Web design agency will handle all the design work itself, cutting out any 'middlemen' costs.

2 Are there any reference sites you can look at?

The best way to decide what you want and determine the costs is to look at the agency's on-line portfolio. This way you can judge the quality of the work before you begin.

3 Does the agency offer free consultation?

Some agencies hide costs by charging for consultation and meetings.

4 Does the agency understand your real business needs?

A professional agency will always do its research. If you're not asked about your business objectives, marketing plan, competitors and so on, look elsewhere!

5 Will you have your own project manager?

You should be assigned a project manager who will be available at any time to update you on the project's progress.

6 Can the agency deliver demographic reports?

You have the right to request regular demographic reports to keep you up to date with all work involved.

7 Do you require maintenance support and is it offered by the agency?

If you do not have the department or people resources to keep your site up to date, you'll need outside maintenance support.

8 Will the agency supply you with a password to access the Web construction site?

The agency should give you the password to its Web design construction site to enable you to see your Web site as it develops.

9 Have you been given a comprehensive list of specialist skills offered by the designer?

The designer should give you a menu of what's available to you for your Web site. (You should be able to have animation or virtual reality if you want it.)

10 Does the agency speak your language?

The right agency will be able to discuss the project with you in plain English and explain the process without using a lot of technobabble/jargon.

Take the strain away from your sales team by taking orders online. *Gareth Lancaster* shows you how...

Virtual money matters

Illustration: David Newton



You can now purchase online in today's electronic market place, and the benefits to companies providing such a purchasing service are extremely attractive. Through a well-produced site it's possible to reduce the burden on a sales team because the need for telephone or postal correspondence is significantly reduced.

Orders can simply come in through e-mail and be processed

quickly and effortlessly. For small companies, in particular, this has a great advantage in that as the ordering process is simplified and hence less time consuming, a greater volume of orders can be processed in the same amount of time.

Over the next few pages we'll be discussing the methods available for setting up an online purchasing arm for your Web site and detailing the different methods available for

achieving this. You may be surprised to know that even if you can't accept credit cards, there are still ways that enable you to accept online orders.

Electronic cash

One of the oldest solutions is electronic cash (ecash). From a consumer's point of view, ecash can be a pain. If you want to buy online, you first need to transfer some money from your normal bank account into an

A guide to e-commerce

Using a credit card is not the only method of purchasing over the Net, although this accounts for a large percentage. When e-commerce activities first started, the concept of using your credit card online hadn't been fully explored and methods of security were only in their infancy, leading to a lack of trust on the part of the consumer. Other methods were then developed and the notion of electronic cash was born, a specialist form of payment devised solely for the Internet.

Now, however, we have very advanced secure servers that enable sensitive information such as credit card details to be transmitted over the Internet with a level of security not previously available. This simplifies online purchasing methods because there's no longer a

need to convert your money into an electronic cash format. This is an important step as it creates the minimum of fuss for the consumer, encouraging him/her to order.

There's plenty of online information if you are interested in electronic commerce, and the CommerceNet site is probably one of the best places to start. It offers a lot of information, including details on eCo, a cross-industry Internet commerce framework, and TRUSTe, an organisation aimed at increasing the level of trust between producers and consumers, especially through the Internet. TRUSTe has major backing from companies such as Netscape, IBM and AT&T and is a step forward in fostering trust with customers.



electronic cash account because you have to pre-pay for anything you buy over the Internet. Once you have electronic cash available – basically, as soon as your funds clear – you can make purchases using sites that accept this form of payment. If you're used to using a credit card over the phone, this extra step could put you off shopping online. However, you do get the advantage of only typing in your details once.

There is a further problem with electronic cash. Unlike credit cards, electronic cash doesn't have a default standard and there is more than one form to choose from such as CyberCash or CheckFree. If you've converted your money into one type, but then come across a site that doesn't accept this, you obviously can't order from that site. This again makes it more complicated when trying to place an order online.

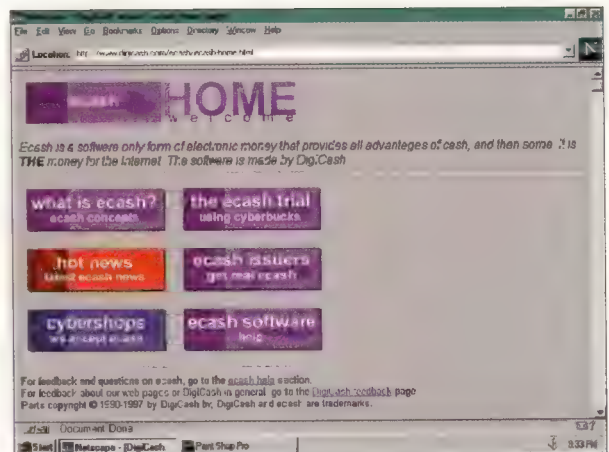
There are a number of options in terms of electronic cash systems. If you're thinking of setting up shop

using one, it pays to see who's already using that system and to contact some of its customers to find out their level of success with it (electronic cash companies have lists online of companies using their systems).

For instance, DigiCash launched its ecash system as a research project a number of years ago. This system used a currency called 'Cyberbucks', which you had to transfer your money into. In a global market place, only 30,000 people opened an ecash account, which is an extremely small percentage of the Internet community, although DigiCash heralded it as a success. By choosing an ecash system, you could be limiting yourself in an already competitive market.

Registering with e-cash

For the purposes of this example, we've chosen First Virtual as it provides companies with two of the easiest electronic cash systems to get started with. The first one is called Pioneer and is for companies that



Turn your money into 'Cyberbucks' with DigiCash's ecash system

can't accept credit cards. It costs only \$10 to apply, and you'll find an application form, along with instructions to help you get started, on the First Virtual site. A big drawback with Pioneer is that you won't receive any money from First Virtual for 94 days, which is a very long settlement period, especially for small companies.

First Virtual's second package is called Express. This is aimed at companies that can accept credit cards and it serves as an extension to that facility. It costs a lot more – \$350 – to apply, but settlement is within four days. Again, an application form and full instructions on setting up your ordering facility are included on the First Virtual site.

It's simple and straightforward to set up using a system such as First Virtual, but you need to weigh up all the pros and cons. Don't forget that there are plenty of other options, so it's worth checking them all out before making a decision that could affect the level of sales through your site.

To summarise, bear the following points in mind:

- Try to find out how many people actually have an electronic cash account with the different providers.
- See how many companies use the systems and how large these companies are.
- It's possible to offer more than one electronic cash system and also a secure server for credit card transactions. Although your setup costs will be increased, it may be worth your while to cover everybody who could possibly want to order.
- Try to find out if you can have a listing on the provider's site. Some providers, such as First Virtual, have their own shopping mall, which you can join.

Safe SET

MasterCard and Visa, with help from IBM and Microsoft, have launched the SET mark, which ensures your transactions over the Net are safe. The SET mark should become commonplace over the next few years and whenever you see the sign you'll know that your card details are secure. It will also enable card-holders and merchants to use special encoding and identification software to authenticate themselves to each other.

◀ ● Try to get hold of some independent statistics on electronic commerce from the providers – these should show you what percentage of transactions across the Net are being handled by them.

Secure servers

Secure servers are one of the best developments in the field of electronic commerce as they create a secure environment for transferring sensitive information such as credit card details. Until their arrival, many people were uncomfortable with the thought of entering personal details into forms on a site, only for them to be transmitted around the Internet without any security encryption at all.

Secure servers are basically the same as normal Web servers, but they do need extra server software and a digital certificate (see later for more information). The difference is that by using encryption techniques supported by Web servers and Web browsers (the method used is RSA Public Key Cryptography – see the RSA site for more details), information is passed between the user and the server in an encrypted form. Secure servers offer a very advanced form of encryption and are the safest option currently available on the Internet.

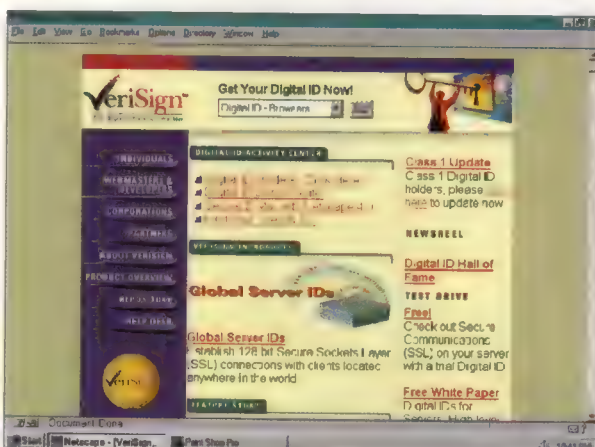
However, some sites still offer on-line credit card ordering that doesn't

reside on a secure server. People, though, are now aware that secure server ordering does exist and offers a vital level of security. So although there's nothing to stop you putting an order form on an unsecure Web page, many consumers simply won't use that because of the risks involved. If you are going to accept credit cards online, then the only way you should do so is through a secure server.

Setting up a secure server

Let's assume for a moment that you're using a Web space provider for your normal Web space. Through these providers it should be possible for you to set up a secure server, but you'll need to purchase a digital certificate

You'll need to buy a digital certificate from someone like VeriSign for simple secure transactions



to make your Web space secure. These digital certificates grant you the right to create a secure environment within your Web space, and there are a number of companies currently offering these certificates.

The most trusted company in this field has to be VeriSign as it is the most established and has created the best supported partnership links with major companies, although there are others such as Cylink and GTE Corp that offer a similar level of service.

To purchase a digital certificate from VeriSign, it will cost you \$290 (£180) for the first year and \$90 (£56) for every year thereafter to keep the certificate active. You'll need to be a limited company and have your own domain name to be able to purchase one (VeriSign requires that you submit proof of your company status).

When you're trying to set up a digital certificate you should be aware that not all Web space providers support all the available certificates because of the server software they use. For example, VeriSign certificates are not currently supported on the latest version of Apache. So check with your Web space provider before you go off and apply for a certificate.

Also, check if there are any extra costs incurred by your Web space provider if you use a digital certificate on your site. Some may charge a one-

Which form of e-commerce is best for your business?

Can you accept credit cards?	Are your goods available to the general public?	Is money a concern?	Solution
Yes	Yes	Yes	3
	Yes	No	4
	No	Yes	2
	No	No	3
No	Yes	Yes	1
	Yes	No	3
	No	Yes	3
	No	No	4

1 E-cash – First Virtual Pioneer

2 E-cash – First Virtual Express

3 Secure server – VeriSign/GTE Corp/Cylink

4 Your own secure server – Netscape/Apache

off installation fee, others a monthly fee. It's best to know where you stand from the start, otherwise you could find the costs incurred restrictive.

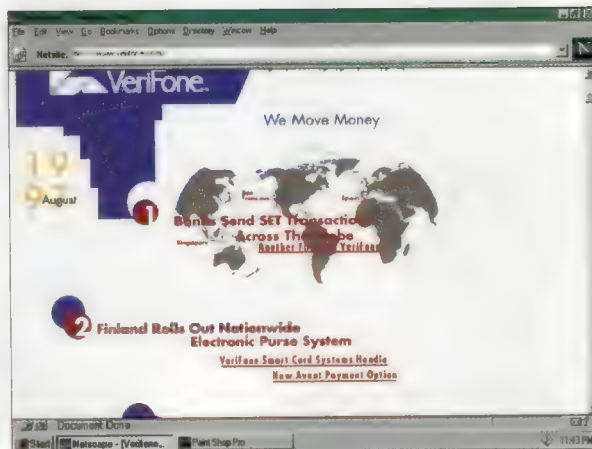
Once you've purchased your certificate, the next step is to inform your Web space provider so that he/she can activate the certificate on your site. Once that's done, you'll have a secure area within your Web space into which you can FTP pages and submit payment forms.

Installing a secure server on your own server

If you're operating your own Web server, in addition to the digital certificate you'll need to install extra server software to handle SSL, the Secure Socket Layer required for secure transactions. If you're running a Netscape server, the software you need is *Netscape Commerce Server*. Full details on this can be found on the Netscape site, as well as information on installing and configuring the server. Other server software producers have their own extensions, which can either be purchased separately or are included with the base server software.

If, however, you run one of the 45 per cent of Web servers that use *Apache* and you're in the UK, then SSL is free, both for commercial and non-commercial use. If you're in the USA you'll have to get *Apache Stronghold*, full details of which can be found on the Apache site. However, because of the licensing terms that RSA places on the encryption techniques used by the secure server protocol, *Apache-SSL* is not included in the standard package but you can download it from AL Digital Ltd's site.

Apache-SSL comes in the form of patches for the Apache server configuration, currently on version 1.2b8, and these have to be compiled on your existing server. Example configuration files and in-depth



readme files are provided but, unless you're familiar with installing server software (and especially their compilation using 'cc' – a UNIX command), it's not advisable to attempt the installation yourself.

Apache-SSL also doesn't support VeriSign's digital certificates, a problem that originates with VeriSign and not Apache, so Apache recommends certificates from Thawte Consulting, CertiSign or IKS GmbH.

E-wallets

As electronic commerce methods develop, it's becoming increasingly easy for customers to order online. The latest development, the e-wallet, is designed to keep all your payment methods stored within your Web browser so that you never have to type them in again. They are stored in a secure fashion, with no access to those who shouldn't see them, but they are still very much in their infancy. At present you can download one from the VeriFone site or download *Internet Explorer 4.0* (or load it from our CD), which has an e-wallet built in. Netscape has also said that new releases of *Communicator* will have an e-wallet built in.

Although in effect e-wallets are simply a store for credit card numbers, it makes the process of ordering on the Internet simpler.

Conclusion

There can be no doubt that the use of the Internet as a direct selling tool is increasing at a vigorous rate. As consumers trust the security systems more, their level of confidence in being able to use these systems without being taken advantage of is also increasing. We now have extremely secure methods of

E-wallets are the latest development in electronic commerce

transferring transaction details across the Internet, whether they are credit card numbers or special, Internet-only payment methods such as First Virtual's two packages, Pioneer and Express. Added to this is the increasing ease with which users can purchase goods through the use of online shopping baskets and e-wallets.

As a company, you are now in a much stronger position to achieve direct sales through your Web site, if you use the technology properly. In the past year it has become so easy for a customer to order through the Internet, and so secure, that there are no longer the excuses for not selling using these methods.

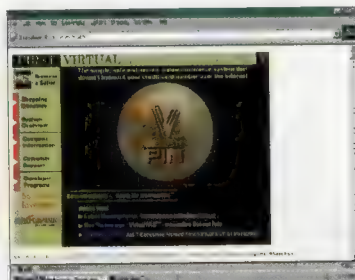
So, ultimately, how important is it for your company to offer an online ordering facility? Although most goods are suited to sales across the Internet, such as consumables or luxury items, if you deal with wholesale or difficult specification products, you'll find it hard to translate the ordering process into one that is both intuitive and quick for your customers.

However, if you do produce goods that can be sold over the Internet, you should take advantage of this medium now, because in 12 months' time you could find that online ordering supersedes the more traditional methods of purchase. ●

Where to go

If you want to visit any of the sites mentioned in the feature, point your Web browser at:

AL Digital Ltd – <http://www.algroup.co.uk/>
 Apache – <http://www.apache.org/>
 Apache-SSL – <http://www.algroup.co.uk/Apache-SSL/>
 CertiSign – <http://www.certsign.com.br/>
 CheckFree – <http://www.checkfree.com/>
 CommerceNet – <http://www.commercenet.co.uk/>
 CyberCash – <http://www.cybercash.com/>
 Cylink – <http://www.cylink.com/>
 DigiCash – <http://www.digicash.com/>
 First Virtual – <http://www.fv.com/>
 GTE Corp. – <http://www.gte.com/>
 IKS GmbH – <http://www.iks-jena.de/produkte/ca/>
 Microsoft – <http://www.microsoft.com/>
 Netscape – <http://www.netscape.com/>
 Netscape Commerce Server – http://www.netscape.com/comprod/netscape_commerce.html/
 RSA – <http://www.rsa.com/>
 Thawte Consulting – <http://www.thawte.com/>
 TRUSTe – <http://www.truste.com/>
 VeriFone – <http://www.verifone.com/>
 VeriSign – <http://www.verisign.com/>



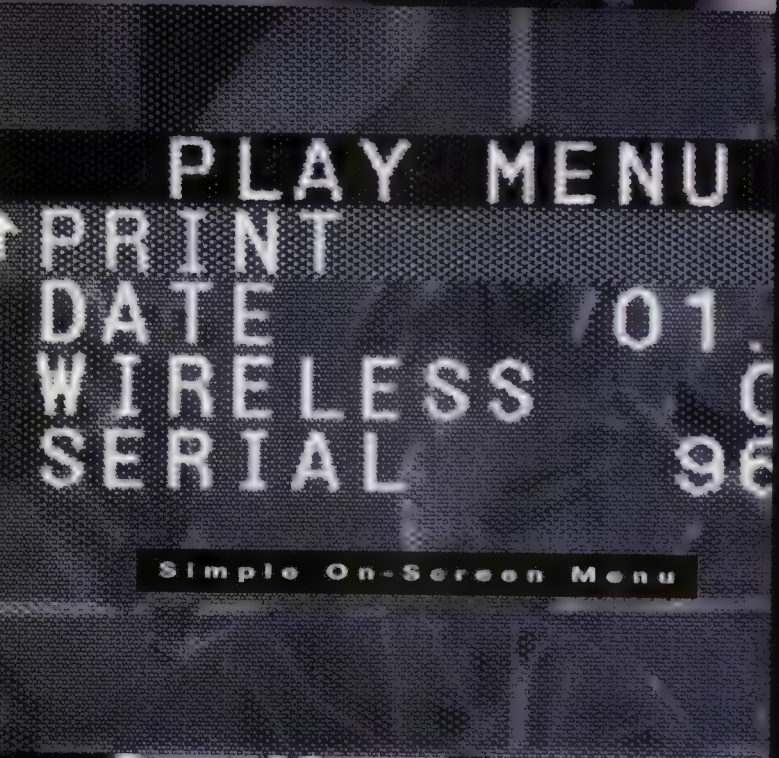
First Virtual offers an alternative to credit card ordering



Built-in Flash



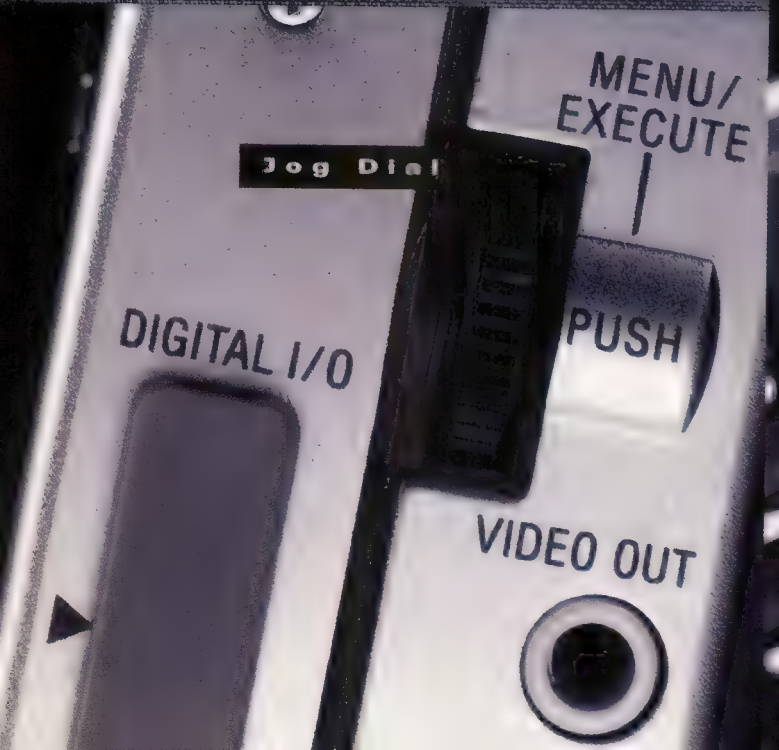
Lithium-Ion Battery



Simple On-Screen Menu



Key Function Operation



4MB Flash Memory



Loaded

Rotating Lens

Infra Red

SONY

Loaded with features, but simple to use. That's the compact new digital camera from Sony, the DSC-F1. Instantly snap up to 108 pictures. Download them to your PC, Macintosh or compatible printer. Copy them to video tape. View them on your TV.

All you need for total flexibility and instant images is pre-loaded into the DSC-F1. In fact, as a leading magazine* review recently said "it simply outclasses the competition".

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*PC Magazine, May 1997

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The Internet is a hot medium that's still growing at a phenomenal rate. As more users come online and the marketplace expands, there can be no doubt that your competitors are getting online as well. So what can your company do to bring in more traffic, other than using the usual search engine, directory listings and the occasional newsgroup postings?

Advertisers can benefit from the Internet with the use of 'banner advertising'. A lot of the major multi-nationals have used it at some point, but a banner advertising campaign can also be just as effective for small- to medium-sized businesses. Because banner graphics and the technologies behind them are constantly in development, potential advertisers now have a variety of different packages to choose from, with the facilities also available to tailor most deals to your needs.

If you are going to use banner advertising, it is essential that you consider the three most important aspects of making your campaign a successful one – location, design and cost. More important than cost, the location or 'placement' of your ad should be at the top of your list. Where you decide to advertise your Web site determines who will visit it: if your business offers a floppy disk

duplication service there's no point in placing your advert on a baseball site.

Just as important as location is the design of your banner graphic. While unimpressive graphics will fail to impress, also bear in mind that a banner with lots of whizzy graphics may take an age to download and be totally ignored by everyone. So, when designing your banner you have to make the most effective use of, and creatively manipulate, the limitations imposed by the Internet.

Location

The effectiveness of your banner advert depends greatly on the type of Web site you use to host and display it for you. It is essential to get your ads viewed by people who are most likely to be interested in your product or service. You have a couple of options available when placing a banner. You can either find specific sites that appeal to your target audience or advertise in the major search engines. Whichever way you go, Web sites that are visited regularly by your desired target audience are your perfect advertising vehicles on the Web.

Global search engines attract millions of enquiries every day, funding their free services by allowing advertisers to pay for banner graphics on their Web sites. Advertising with one of these giants can

Illustration: Gary Bates



Standing out from the crowd

Make sure your company gets noticed on the Web. **Austin Delaney** tells you all you need to know about banner advertising

↙ bring hundreds of new visitors to your Web site each day.

Bear in mind that search engines are often the most popular starting point for any individual looking for information online. This could be the reason why people find it so important to get their site listed at the top of the search result page on given keywords. Obviously, this is not always possible.

Most search engines' banner advertising programmes are refined and feature-rich, offering a variety of ways to guarantee that your site will get the targeted exposure you seek. Nearly all the major search engines enable you to sponsor a particular word or phrase, and during the period you are advertising with them your banner for that phrase will appear at the top of the results page.

You can also opt for 'category sponsorship' or 'run on category'. Most engines now list so many sites that they have started to categorise their contents into directory listings. This is a preferred means of locating information for many Internet users and with 'run on category' your banner graphic will appear at the top of the category you choose to sponsor.

Another option commonly offered, and a much cheaper alternative to the above, is to purchase a general 'run of site' package. Under 'ROS' your banner will appear on any and/or all of the pages of a search engine and you should be able to specify how many 'banner impressions' you have over a length of time. This is usually the best method of banner advertising for products/services with a broad range of appeal or for those who are trying to build brand equity.

The main drawback to advertising on one of the search engines is price. More often than not, the cost of using these search engines in your banner advertising campaign is so high that smaller businesses can only afford sponsorship for a short period of time.



Place a banner graphic on a search engine to advertise your company



You can advertise your company using key words. This advert only appears on searches including the word surgery.

So if your setup is a small speciality firm, then a different strategy might be more suitable.

There are plenty of smaller Web sites out there turning over in excess of a thousand visitors a day and the betting is that there's at least one site that is relevant and applicable to your Web site. As gaining advertisers for a Web site is one of the many ways of making revenue from the Web, there is a spate of successful site owners starting to employ banner rotation programmes so that they can deliver banner ads to their viewers.

Because of the relatively small amount of visitors to these Web sites compared to the number visiting search engines, the cost of advertising is usually a lot less. However, don't be led into thinking this means that these sites can't serve as effective media vehicles for your banner ↗

What is a banner advert?

You can think of banner ads as billboards on the Internet – wherever there is exposure and visitors to see the advertisement there will be a banner. Banners are typically rectangular in shape and usually appear at the top of Web pages. They work by increasing the visibility of the product or service being advertised, but unlike a classified in a magazine or a TV ad, banner adverts can be interactive.

Banner advertising offers many advantages over other forms of advertising and marketing on the Internet. Using banner ads, potential buyers are only one hyperlink away from your Web site and consequentially your product.

Tracking users and their actions is also easier. You can see how many people visited your Web site through the ad, and with some of the services available you can even track them to the point of sale. This delivers results that can be intensely analysed to see if you need to improve anything.

Reaching a worldwide audience is relatively cheap when using banner advertising as a means compared to the cost of achieving the same effect using other international and even national mediums.

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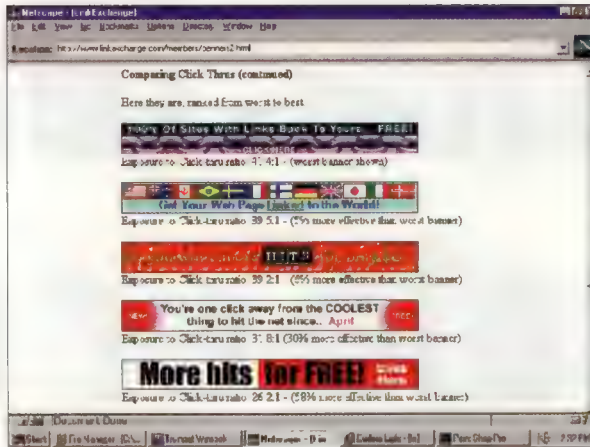
advertising campaign. Rather the opposite: smaller Web sites do offer an excellent marketing opportunity because of their highly targeted visitors.

There are a few ways of finding the smaller, targeted Web sites to advertise on. The best place to start is in the search engines – look for Web sites that suit your purpose and see if they offer advertising on their sites. Even if you do find the perfect Web site that doesn't offer advertising, you could try approaching the Webmaster and ask if he or she would be interested in doing so.

Both of the above require you to spend hours searching the Net, and if you haven't got the time to do that you can always turn to one of the professional agencies out there. There are more and more businesses on the Web that specialise in setting up targeted banner advertising campaigns for others. Surprisingly, it can be cheaper for you to use these agencies than approaching the Web site owner yourself, because agencies can receive anything up to a 20 per cent discount.

Design

The design of the banner itself is often ignored and many people don't realise that the success of their advertising campaign can rely just as heavily on the aesthetics of their banner as the location or placement used. If you want to maximise the amount of



people who click-through to your Web site, you need a well-designed banner.

We are now heading into a third generation of banner advertising. The original static banner was soon replaced as the browser support for GIF animations grew, and with it more appealing banner graphics appeared. Using animation in your banners can radically increase the viewer's response to your ad and lead directly to click-throughs to your Web site.

Involving your target audience through the use of interactive HTML with pull-down menus, check boxes, and toggle buttons, enables viewers to personalise your banner to their own taste. Creating a more interactive feel to the banner can draw in users because they are more in control of the results of clicking through.

Gaining a click-through is the most important job of a banner graphic; what happens when a viewer gets to your Web site is a different story. The easiest way to get a click-through is by simply asking viewers to click-through. The most common way to do this is by using the two words 'Click Here'. Using buttons or arrows

Linkexchange (www.linkexchange.com) has a handy heroes and villains of banner advertising section

Gaining a click-through is the most important job of a banner graphic

in the banner can also tell viewers that more information is available only one mouse click away. In effect, you can ensure a better response just by doing something, anything, to tell viewers that they can interact with the banner graphic by clicking on it.

Cost

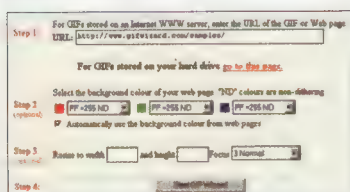
If you look around you'll find there are only three pricing structures common to banner advertising – flat fee, CPM (cost per thousand impressions) or click-throughs. Some sites will ask you for a flat fee over each month, but thankfully this method is rare and, if used at all, it's normally for smaller purchases. A simple example of CPM is if you buy 50,000 impressions at £20 CPM, you will pay £1,000 to have your banner shown 50,000 times to viewers. This is the most popular way to buy banner advertising space and CPM prices can range from £10 to £60 depending on how targeted the banner placement is.

Purchasing banner advertising based on click-throughs and guaranteed visitors is rare, but it means you are only charged for visitors, not the amount of times your banner is seen. Expect to pay between 10p and 50p per click-through; a site that can deliver visitors who are genuinely interested in your Web site will cost you more than visitors who are just out Sunday browsing.

But if this all sounds too much, you can always get the professionals in. There are Web site promotion agencies specialising in online media planning. WPRC's (www.wprc.com/) banner advertising consulting services include full service media planning, search engine keyword advertising, guaranteed visitor programs, and banner design. ●



Custom build your own banner with help from the experts at FX Multimedia's Banner World site www.fxmm.co.uk



This online utility at www.gifwizard.com helps you reduce the size of your banner ads so that they load faster

7 ways to increase throughput

- 1. Animation:** Using animation in your banner graphics can increase response rates by 25 per cent. It helps to catch a user's eye.
- 2. Cryptic messages:** Cryptic messages can increase click-through by up to 20 per cent, but it's worth noting that they may not attract the right audience.
- 3. Sense of urgency:** Creating a sense of urgency can actually decrease your click-through rate – Net users like to feel that they are the ones in the driving seat.
- 4. Ask questions:** Using questions such as "Looking for a bargain?" and "Have you seen...?" can raise the click-through rate by 15 per cent.
- 5. Direct action:** Phrases such as 'Click Here' tend to improve response by 15 per cent.
- 6. Free offers:** It's no surprise that offering something for nothing will dramatically increase your click-through rate.
- 7. Colours:** Using bright colours contributes to greater response rates.

Webmaster for sale or rent



Your Web site is up and running but needs someone to oversee it. ***Jana Sanchez-Klein*** gives you the low-down on hiring a Webmaster

WEBMASTER@WORKS

Hiring a Webmaster

Almost everyone agrees that hiring a good Webmaster is a difficult challenge. That's mainly because the profession is young so there's a dearth of experienced people out there. Also, there is a growing demand for the talent that does exist.

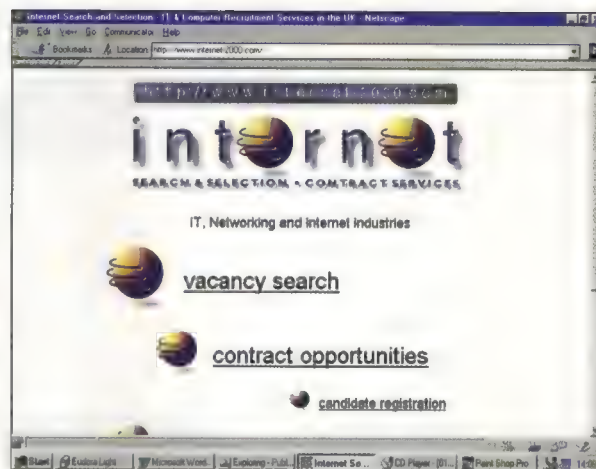
Another difficulty lies in trying to define precisely what you need in a Webmaster. The quasi-official definition of a Webmaster is someone whose job it is "to design, implement and maintain an effective World Wide Web site", according to the Webmasters' Guild, the first professional association of Webmasters (www.webmaster.org), or, as the International Webmasters Association (www.irwa.org) puts it, "the Webmaster is the individual who has the overall responsibility to develop, monitor, and manage a Web site". But both of these definitions are purposely broad and the actual job description of Webmasters is even broader.

To some, the Webmaster is a technical guru who sets up and maintains the server for a Web site; to others, he or she is a marketing pro who can take complicated marketing strategies and translate them into an effective Web marketing effort. Sometimes the Webmaster is simply someone who answers all those e-mails from confused visitors to your site. Whatever the level of technical requirements – or power of the position – several things are clear: there is no universal definition of a Webmaster; there is no one title that's being applied to the job; and finding a good Webmaster is harder than most people would think.

What's in a name?

Dell Europe spent two months trying to recruit a number of staff to carry out the job of Webmaster before scrapping the title. Gordon Ballantyne, Director of Internet for Europe, found that the title Webmaster gave prospective applicants an imprecise impression of what their duties would be. While the plan was to hire five to six staff and split up the various roles, recruiting under the title Webmaster made it impossible to attract candidates who were expert in each of those specific job function areas.

Now the role has been broken into each of its individual components, with different staff with distinct titles



There are several agencies such as Internet Search & Selection (www.internet2000.com) that can help you find technical staff

responsible for these areas: content development, the look and feel of the site, developing HTML, producing graphics, and integrating content while maintaining the site's integrity.

At the other extreme, the consumer goods giant Unilever recently launched a search for a Webmaster to co-ordinate its redesigned corporate site. Ironically, the search was conducted in such a way that few IT professionals would even be aware of or apply for the role. Maggie Huddy, who is the company's new media manager and whose job it is to hire a Webmaster, chose to advertise the position as electronic media assistant in the Monday edition of the *Guardian*, where media jobs are listed. With a salary of only £18K to £20K per annum, Huddy's advert clearly wasn't designed to catch the eye of professional Webmasters.

As the systems administration work is handled by her Web design agency, what she really needs is someone to be the public face of the Web site who can co-ordinate its production. Huddy doesn't need an HTML whizz kid as she has an entire IT department and a Web design agency for the technical management of the site. What she needs is someone to be responsible for the day-to-day running of the site, including chasing up content, uploading updates and answering e-mail queries.

Although there's a lot of confusion and scepticism over the title, most Webmasters in the UK are of the technical variety – personnel who set up and maintain servers, making sure they run properly. If you eliminate the content-centred Webmaster role (such as Unilever's new media

**To some,
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Illustration: Daniel Mackie

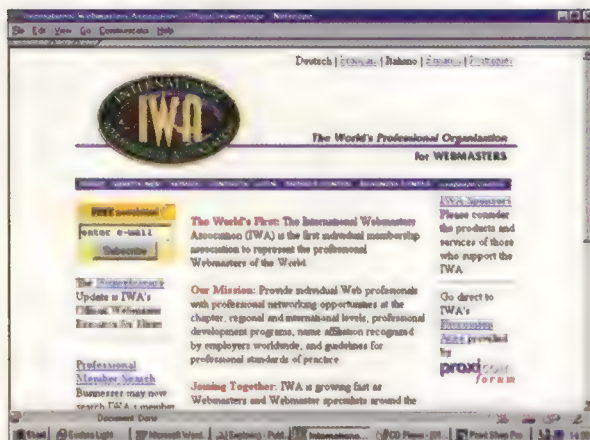


assistant), most Webmasters need a solid grasp of hardware and software.

Education

Although most Webmasters and those who hire them seem to believe it's the skills rather than the credentials that count, it's no huge surprise that most Webmasters have degrees in science, maths or computing. Although it's possible for someone without a degree to learn the complex programs and protocols needed, it's more difficult for them to develop these skills without proper classroom study.

The most universal skill needed is the ability to write HTML by hand (without the aid of programs designed to make it easier). But HTML is not in itself a difficult language to learn as it's closer to word processing than it is to programming. Beyond HTML, Webmasters must have other solid programming skills. Most Webmasters are expected to have a good understanding of CGI gateway and



The International Webmasters Association (above) and The Webmasters' Guild (below) have both attempted to define the varied role of Webmaster

PERL script language. Webmasters working on sites with a high degree of interactivity might be expected to write Java scripts. In other cases, knowing Java might just be a bonus.

Systems administration is another crucial skill, and the system needed varies depending on the hardware used. Many corporate Webmasters are expected to know UNIX administration, although a growing number must be proficient in Windows NT, or both. In addition to the server hardware, Webmasters are expected to understand and use the server software, which again varies depending on the server used. Server software includes material from Apache, Netscape and Microsoft, as well as Sun Microsystems' Solaris.

Although Webmasters aren't usually expected to be networking pros, a good knowledge of routing and Internet architecture is generally desired. That means having more than a passing acquaintance with networking standards, protocols, products, and jargon, including an

understanding of TCP/IP and a variety of networking protocols.

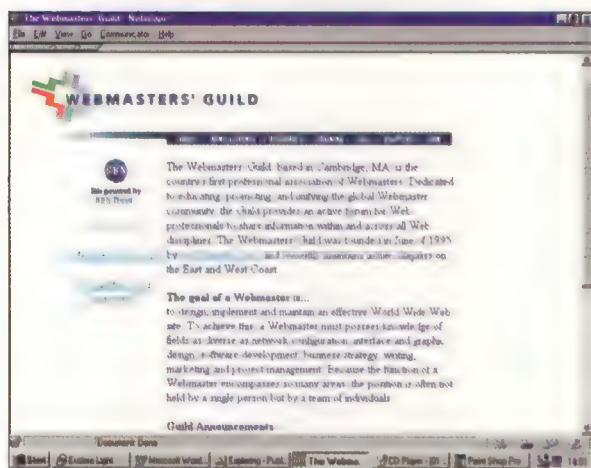
With the increasing complexity of Web sites, knowledge of databases is becoming an important skill for corporate Webmasters. Understanding SQL commands is probably a minimum requirement for Webmasters working on complex sites with databases. It's generally easier for someone with a database background to be trained in HTML and Web technology than it is for someone who knows HTML to learn about databases. As electronic commerce on the Web increases, those database skills will become even more important for designing and maintaining complex catalogue and inventory sites.

Web smarts

It may be simple enough to determine if a candidate possesses the appropriate technical skills, but there's an entire grey area of personality and other skills that will be harder to clarify. Many people may have the technical skills necessary but still may not be good Webmasters.

Since for many companies the Web is a marketing tool, marketing skills are often near the top of the wish-lists for those seeking Webmasters. Marketing skills might mean having a good understanding of the field in which a company operates or knowing the intricacies of Web-based commerce. Indeed, it might mean understanding who the customer is and knowing what will appeal to him or her.

Communication skills are often highly rated in candidates. That's because Webmasters often have to work closely with technical staff,



Webmastering – an inside or an outside job?

You trusted the Web design house to create the image and the technology for your corporate Web site in the first place, didn't you? So why should you go to all the trouble of hiring a Webmaster internally and getting him or her up to speed when you could simply go on using the Web design house?

This is exactly what many companies are doing, even large ones with their own IT staffs – they are outsourcing the Webmaster function to their Web designers.

Abbey National hired Hugh Bell of The Brand Encounter to design its corporate Web site in September 1995. Bell put together a team, including a programmer who Bell designated as the Webmaster.

Although the team has stayed pretty much the same, the Webmaster has not. The original Webmaster has since gone on to focus on different aspects of the site, while the programmer who was hired to assist him has now taken over the role of Webmaster. Being

the Webmaster for Abbey National's site is very much a full-time job for the programmer.

One of the benefits of having an outside agency as Webmaster is that whenever problems arise, the Webmaster is not working in isolation. If the Webmaster takes the day off or goes on holiday, there's a team there who can fill in for him. Also, under normal circumstances, the Webmaster has a full team of IT professionals who are familiar with the site and know what to do.

The company isn't likely to be saving any money by outsourcing its Webmaster as the position is still full-time, but that's not always so. For a smaller company, in which the Webmaster function doesn't require a full-time staff, money can be saved by outsourcing the job.

Abbey has a large IT department, which could have handled the hiring process and the training process. Instead it chose to continue with Brand Encounter. After all, why tinker with success?

WEBMASTER@WORKS

Hiring a Webmaster

marketing staff and vendors such as design consultants. Webmasters often have to translate ambiguous and difficult requests from non-technical staff into the finished product. Without good communication skills, challenging tasks could never be accomplished. Native graphics skills, such as knowing what looks good on a Web page and what size pictures to use, are important for many Webmasters.

It's critical that Webmasters have a brain for strategy, says Hugh Bell of the Web marketing agency Brand Encounter, whose firm produces Abbey National's Web site. Webmasters need to understand the overall goals of the business to tailor the Web site effectively. He also thinks it's important to hire a Webmaster who has an affinity with your business. Just as you would want a salesman who likes the product he's selling, Bell says your Webmaster should know his or her way around the subject area of the site.

Going it alone

Most Webmasters are found through networking and word of mouth. But if you are not in a technical field, this may be impossible. And unless you are IT-aware, it's probably best not to go in unarmed. Your best weapon is likely to be someone who knows the technical requirements and the right contacts to call on but who isn't going to benefit by the outcome.

Without a ready source of Webmaster candidates, the next best way to find some is to meet them on their own turf – the Internet. Many Webmasters say they haven't even read a newspaper in over a year and that the Internet is their source of news, information and the first place most would turn if they were looking for a new job.

Newsgroups such as **uk.jobs.offered** or **uk.jobs.wanted** display hundreds of jobs and applicants and attract many in the IT field who are looking for new careers. There's no charge to list your job opening on the newsgroups and the results of postings is a highly-focused, well-qualified pool of applicants.

Train your own

Some companies have found it's easier to hire bright maths and science graduates and train them to become Webmasters. One such company is the Oxford-based Domino Systems, a Web

design and consultant house whose clients include Microsoft, Dell and Jaguar. Domino's managing director Carl Christiansen believes that the quality of Webmaster he ends up with is substantially higher than he would have if he recruited from the available pool. And although it takes the best part of a year to train a Webmaster, the new recruits are productive straightaway.

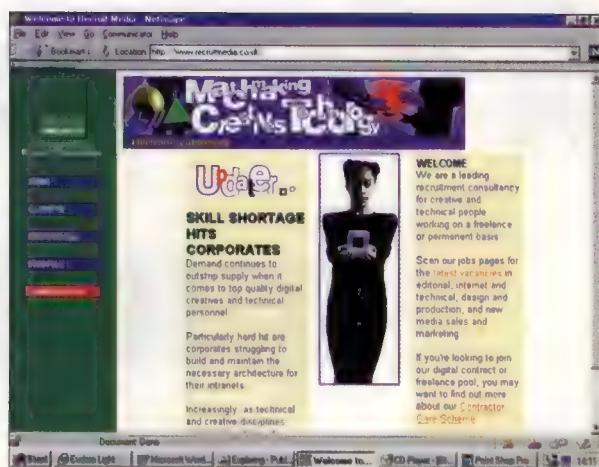
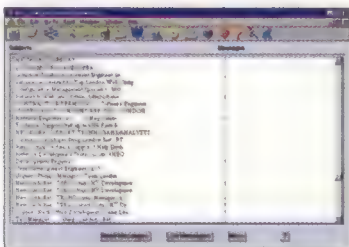
The tremendous interest in the Internet among young graduates makes finding enthusiastic learners a relatively simple task. Learners or not, there are some skills and experience Domino expects its recruits to walk in the door with, such as the ability to set up a Web page, some systems administration courses or experience, and advanced HTML. The most important criteria, however, is demonstration of initiative and the appetite to learn.

You will find that even with experienced Webmasters, there's likely to be a learning curve as they'll need time to learn about the business and the company. Training, although unavoidable, has other downsides. One obvious drawback to spending a year training a Webmaster is that you risk creating a target for other companies and headhunters to poach.

Internal recruitment

A similar approach followed by many companies with strong IT departments is to fill the position internally. Systems administrators make good internal candidates for Webmaster positions, especially if they have spent time working with UNIX or Windows NT systems. A programmer who is an Internet hobbyist or someone looking to move into the Internet as a career path is also a good bet.

Traditional recruitment agencies may not be able to reach highly skilled technical professionals, but several agencies in the UK do specialise in technical staff, including Webmasters. Two such agencies are Internet Search & Selection



Recruit Media – a recruitment agency that specialises in technical staff

The most universal skill needed is the ability to write HTML by hand

If you're looking for a Webmaster, then uk.jobs.offered is the place to go

(www.internet-2000.com) and Recruit Media (www.recruitmedia.co.uk).

With so many jobs and so few experienced people available, holding on to a good Webmaster is increasingly important. Simon Bantan, head of technology for Interactive Investor Inc, has hired many Webmasters. He believes the key to retaining technical staff is more about atmosphere than treatment – most Webmasters are more comfortable in a casual-dress environment, for example. Having access to the right equipment and working for a company with a good reputation are also rated highly among Webmasters. Christiansen says the key to retaining Webmasters is to give them responsibility and variety. (See our case study on page 37.)

Salary range

With starting salaries around £23,000 per annum outside London and reaching as high as £70,000 working in the finance industry in the City, salaries show the same range as other elements of the job function. Among contract Webmasters who work for a variety of clients, it's not uncommon to earn £100,000 per year.

Many British Webmasters lament that they are not earning the salaries of their American counterparts, but those who hire Webmasters see the salaries rising rapidly enough. In fact, most predict that with talent spread so thinly, salaries will consistently rise until they reach the US levels of about \$55,000 to \$60,000 (£34K to £37.5K) for entry-level positions. One realist predicts that salaries will level off after January 1, 2000, when thousands of programmers will once again be on the job market as presumably the 'Year 2000 problem' will be resolved. ●

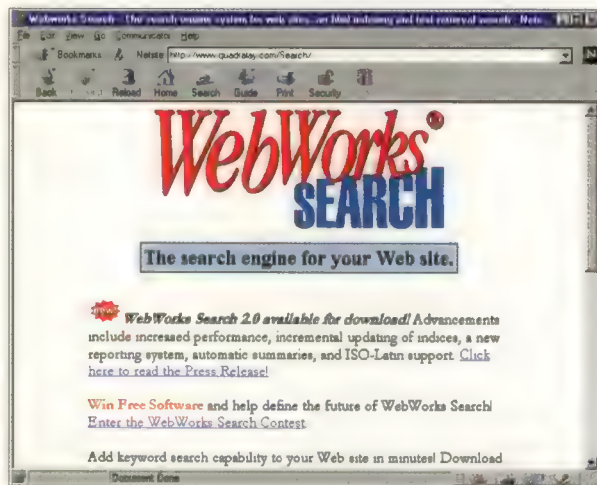
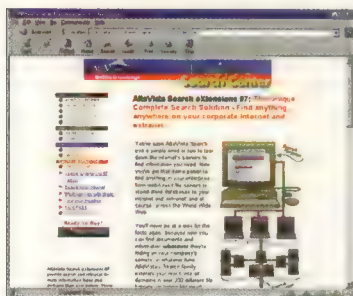
A searching question

How do you help users to navigate your site?
By adding your own personal search engine.
Karl Dallas surveys the field

Imagine a library where the books aren't stacked on shelves by subject, and each page is stored loose, and you are looking for an individual word on any single page. That's what the Internet would be like without any search facilities.

That's why, as long ago as 1995, Digital the hardware company – whose PCs are the power behind many of the most important Internet service providers – realised this was going to be a major problem. So it set up AltaVista, a search engine whose significance was indicated immediately by the 300,000 hits it received on its first day of activity.

That has now gone up by a factor of 60 and is nearing 20 million a day. And while the AltaVista technology has been licensed by a wide range of other search providers – notably Yahoo! – there are now hundreds of



Sort your intranet content into topics with WebWorks

The technology behind AltaVista has been licensed to a wide range of other search providers

other companies offering various kinds of search facilities, as well as search capabilities built into Web browsers. If you're using *Internet Explorer*, for instance, you can now type in "go search term" in the address box, and it will go out and search for files that meet the criteria you've defined; the engine used is Infoseek UltraSmart.

What was true of the Internet in 1995 is just as true today for intranets and company Net sites, and while the size of a corporate Web is obviously much smaller than the world-wide variety, the data will be more vital and the speed of retrieval much more critical. That's why most of the major search engines – AltaVista, Excite, Infoseek, Lycos,

Magellan and WebCrawler – now provide localised search capabilities, which can be used either on a single site or throughout an enterprise Web.

File finding

Before we look at these, and at the considerations you should bear in mind when selecting one or the other, we need to look at the whole area of finding anything on any computer system. After all, that's all an intranet or a Web server is.

If you're using Windows 95, the Windows Explorer has a built-in search engine. Right-click on the **Start** button (or, within Explorer, left-click on the **Tools | Find | Files or Folders** menu option), and you'll get a dialog that enables you to search anything from a single computer to an entire network. You can refine your search to look for certain file names or types, when last modified, or text within the file. You could, conceivably, ask your people to use it to search your Web.

There are two things wrong with this simple solution, though. First, it's horribly slow, because it has to look through the contents of every file before it finds what you're looking for, as Explorer doesn't index them. Second, you can't refine your search using Boolean logic, which would enable you to say things such as "List for me all files containing either 'new' OR 'latest' AND 'brilliant' but NOT 'old' OR 'terrible'."

Also, Explorer's Find doesn't rank your results. You can alter the display to rate them alphabetically, chronologically, and so on, but a good search engine will rank them by relevance to your query. So if you ask for "new" OR "latest", it'll list the result containing both words above files with either one or the other.

And what about names? If you ask for "Bill Gates", how do you exclude the bill you got from the carpenter, who repaired the gates to your garden, and restrict your search to anything listing the boss of Microsoft? Proximity is another issue: if you're looking for Antarctic explorers with Internet sites, you don't want references to *Internet Explorer* to be included, or vice versa. AltaVista has a useful NEAR Boolean operator, so Internet NEAR Explorer will ignore those pages to do with geographical exploration, while

STEP BY STEP@WORKS

Choosing a search engine

Antarctic NEAR Explorer will do the opposite. Other search engines offer you the even more specific ADJACENT operator, which will only find files where the specified words are next to each other. Regular Windows Explorer can't do any of this stuff.

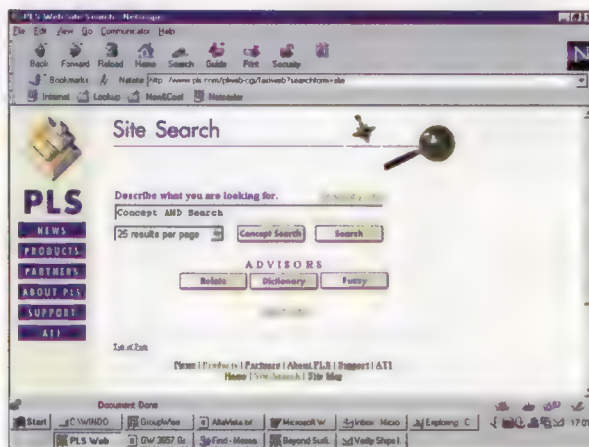
Try before you buy

It's essential to decide exactly what you want from a search engine because buying one can be very expensive: a 250-client licence to AltaVista Search Intranet PX (contact Web Factory, 01782 858585) will cost you £9,999; £41,249 if you want the more powerful 64-bit XL version, which runs only on the DEC Alpha platform (which enables you to get over the 2Gb limit on index size imposed by a 32-bit system). The average price for the highly-regarded Verity search engine is about £8,000.

Before you start spending that kind of money, also bear in mind that all search engines were not created equal. Some of them are better than others, and some are better at one type of query than another, which might be better than the first at something else. It's not a question of any single searcher being 100 per cent better than all the others, but it's very much a case of horses for courses. Fortunately, you can try them all out in their Web-wide Internet versions, to see which you prefer. A good way of doing this is to go to <http://www.isleuth.com/> which will search up to six of the better-known engines simultaneously.

You can download trial intranet-targeted versions of many of them (see 'Downloadable search engines' on p67), but you should still restrain yourself, because some intranet server software comes with a search engine bundled free. For instance, a version of the Verity search engine comes with Netscape Compass Server and Microsoft Internet Information Server (see our review on p90). If you're running either of these, then you already have Web searching.

Well, it could be that as highly regarded as Verity is, you're finding the bundled version doesn't answer all your requirements. Well then, if you've got MS IIS, you can upgrade your searching by downloading Microsoft Index Server and, apart from download times, it won't cost you a penny. One of its advantages is

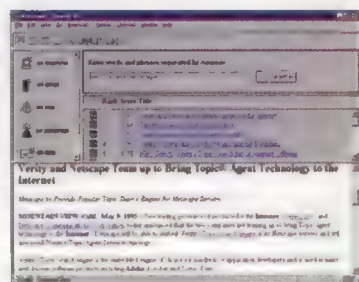


that every time a file stored on Windows NT Server is changed, added, or deleted, Index Server rebuilds the index, so users always have access to the most up-to-date information. It can search documents in English, French, Italian, German, Dutch, Spanish and Swedish, and it supports "stemming", so different tenses of a verb will be searched, eg "go" will also look for "going".

The disadvantage is that this is only available for one platform. Despite everything Microsoft would like us to think to the contrary, there are still lots of other systems out there besides NT, many of them running on some flavour of UNIX. Verity or Excite are best for this segment of the Web server market (AltaVista only runs on NT and Alpha servers). Glimpse, a very nice (and free) indexing tool developed at the University of Arizona, runs on a wide range of UNIX machines, including Solaris, SunOS, Alpha, Linux, AIX, SGI, RS6000, FreeBSD, and the almost-vanishing NeXT; it doesn't run on NT.

Types of index

Different search engines work in very different ways. When searching WWW files, this can be very important because (for example) WebCrawler indexes every word of a



PLWeb demonstrates well concept searching – finding documents with synonyms or similar phrases

Hundreds of other companies offer various kinds of search facilities

Verity has a scalable set of search solutions, which can run on an NT or UNIX machine

Web page, while the Lycos index is built using only selected words, such as the title, the headings, and the most significant 100 words. With searchers like Infoseek, you have to embed <META NAME> keywords inside the <HEAD></HEAD> tags of an HTML document for them to be returned in searches. However, to expect users to do this on an intranet is really to add unnecessary complications, so it's important to know if your chosen search engine actually indexes all the words. Having established that they do (and all of those recommended here do so), the question arises: how do they present their results and how helpful are they?

The Lycos Intranet Spider crawls through all your Web (including non-HTML documents), indexing and cataloguing pages automatically and generating a useful abstract for each link. This spider is powered by a version of Inmagic's search engine, the main version of which can be used to interrogate databases and present the results in HTML. Presenting an abstract is more useful than displaying the first 100 or so words of every file, which is what most searchers do.

What no search engines do (and we'd like to be proved wrong on this) is to present the results in context. Getting the first 100 words of a document, or even a computer-generated abstract of its content, is not going to be very much help if the data you're looking for is tangential to the main thrust of the document. It would be useful if they gave you the option of displaying, say, the sentence containing the search term, with the previous and next sentences, to stop you bothering with results that have little in-depth reference to your search.

Lots of search engines make much of the fact that they index many more types of document than just HTML (for instance, Verity indexes over 200 different file types, and AltaVista just as many), but this may not necessarily be good for you. If you've only got HTML and ASCII (basically the same thing to any search engine, because HTML can be read by any basic text editor), you might as well stick with an engine like Excite, which won't touch anything that isn't plain text or HTML, but has very powerful

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STEP BY STEP@WORKS

Choosing a search engine

capabilities. These include concept searching, displaying summaries of key concepts in your documents, and listing documents ranked by confidence or subject.

If your intranet is accessible to outsiders, then you'll be interested to know that Excite's EWS Notifier automatically updates the Excite search service's master index with information on your site, so the world at large can know what you're up to.

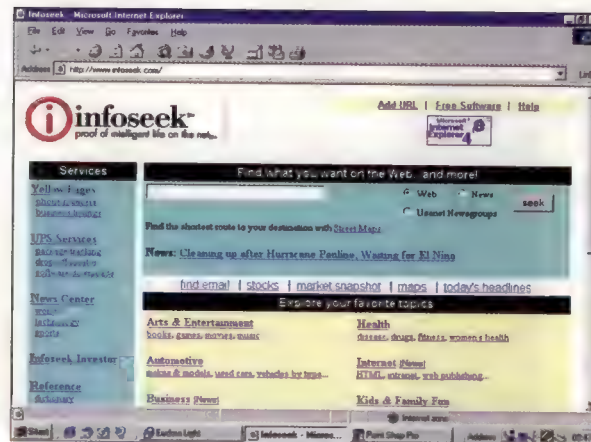
Search by phrase

Concept searching basically means finding documents with synonyms or phrases meaning something similar. One of the best implementations of this is the little-known PLWeb, which has a 'Concept Search' button that generates a list of similar terms from which you can choose the most appropriate for your search. You can also do this by putting an exclamation point before the search term, so !search will also look for occurrences of probe, look for, quest, and perhaps even dig.

In fact, PLWeb offers more sophisticated search terms than any other we know, includes document summaries, query by example (more like this), runs on Sun Solaris, HP/UX, SGI-IRIX, IBM-AIX, Digital Alpha and NT. In addition to ASCII and HTML (and SGML, of which HTML is a subset), it can search Acrobat PDF files, which is valuable as PDF is a good way of storing documents formatted using DTP programs like *PageMaker*, and they can be viewed over the Web using a Netscape plug-in.

You could also take a look at another lesser-known engine, Quadralay's WebWorks Search, which enables you to organise your intranet content into topics (for instance, data sheets or press releases), and restrict searches to any selected topic or range of them. You can create customised query pages without having to know HTML. Display of results is fairly rudimentary, ranking them by relevance score, number of hits, topic, or title.

Unfortunately, two of the best available search engines – Verity and Fulcrum – don't provide evaluation downloads, but you can buy a 'personal' version of the Verity engine for just £50, which will give you an idea of how it works. Verity offers a very scalable set of search solutions,



Infoseek now provides localised search capabilities

based around the Information Server, which can run on an NT or UNIX machine (platforms supported include those from IBM, Sun, SGI, DEC, SCO and Hewlett Packard). In addition to responding to ad hoc queries, there's an Agent Server, which can push information to users according to their individual specifications, and IntelliServ, a more powerful push product.

In the middle of next year, Verity will be shipping a new product, TopX (previously codenamed Voila!), which will enable users to aggregate search results into logical categories in a map-based display automatically. In addition to being adopted and endorsed by companies such as Microsoft and Netscape, Verity has carried off a number of industry awards (details from 01372 747076, e-mail: rep-uk@verity.com URL: <http://www.verity.com/>).

Fulcrum is definitely part of the wave of the future, as it's the only search engine we know that supports the Java language, giving it powerful cross-platform capability as

far as browsing is concerned, as well as providing integral JDBC Java database support. Its SearchServer is tightly integrated with the NT and UNIX operating systems, inheriting existing network file access privileges, a particular advantage in the corporate environment, where security of sensitive data is likely to be paramount.

Its open APIs and compliance with industry standards like JDBC and ODBC mean that it's fairly easy for developers to create enterprise-specific applications, tailored to the particular environment where they will be used. Details from <http://www.fultech.com/english/products/download.htm>

Decision time

As with any software – and especially where an investment of several thousands may be involved – you need to think through your search needs carefully before committing yourself. Check out the available downloads (and the bundled engines with various Web servers) to see which suit your purpose best. Look at speed of response, helpfulness of the result ranking and – although less significant in these days of huge, cheap hard disks, but still a factor – the size of the indexes generated. Although the best-known engines, such as AltaVista, Verity and Excite, are worth your attention, don't neglect the less well-known options, which may best suit your needs or available hardware.

This is an area where there can be no true best buy, only a best for you and your setup. And only you can determine that. ●

The Lycos Intranet Spider crawls through your Web, generating an abstract for each link

Downloadable search engines

AltaVista

<http://altavista.software.digital.com/products/search/nfintro.htm>

Lycos Intranet Spider

<http://www.inmagic.com/spidform.htm>

Excite

<http://www.excite.com/navigate/download.cgi>

Glimpse

<http://glimpse.cs.arizona.edu:1994/index.html>

Microsoft Index Server

<http://www.microsoft.com/ntserver/search>

PLWeb

<http://www.pls.com/products/plweb/plwebdnload.html>

WebWorks Search

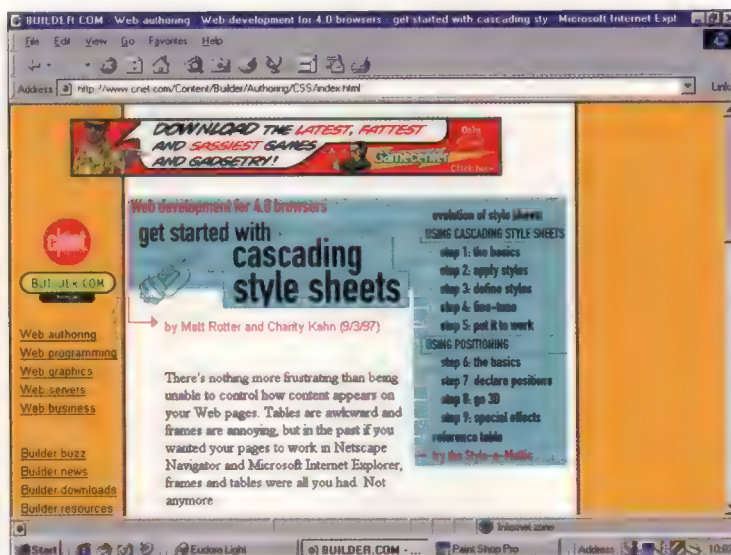
<http://www.quadralay.com/Search/Serverwatch.html>

10

ways to make your Web site FASTER

Karl Dallas offers some sound advice on how to make your site swift

Cascading style sheets enable you to take control over complex layouts without using tables (see point 8)



1 Keep it simple

Always remember that less is more. Resist the temptation to tart up your pages with all manner of fancy add-ons, because there's no value in getting arty if viewers hit the Stop button in sheer frustration.

Each time you add an animated graphic or complicated table setup, ask yourself if it's going to enhance the viewing experience – or just demonstrate how clever you (or your Web designers) are. If it's the latter, then junk the fancy stuff, mercilessly.

2 Keep them hanging on

To sustain your viewer's interest, make sure something is happening while the page is downloading. Ensure that every graphic includes an <alt> tag, so that the name of the file is displayed while the image downloads.

Save the graphic in interlaced GIF mode or progressive JPEG, so that the viewer can see the progress of the download (but also read the next tip, because interlaced files are slightly larger than the non-interlaced variety).

Pay particular attention to the top of the page, so that something – anything – displays nice and quickly. For example, put a main headline on the page above your smart logo. The logo ought to go at the top, as a matter of common sense, but a line of text above it, saying something like WELCOME TO THE MYSITE HOME PAGE while the logo downloads, is friendlier than having your viewer stare at a blank screen.

3 Tell the browser what it needs to know

Lots of interaction between browser and server can be cut down, or even avoided entirely, by telling the browser information it would otherwise need to ask for, such as an image's height and width. This saves the browser having to find out this information for itself. Also, if you save your image smaller than you need, you can use the height and width parameters to blow it up – but make sure the blow-up works and doesn't make the image unpleasantly 'blocky' before you do this.

When you're directing a link to a particular site directory – such as www.yoursite.com/html – always include the final forward slash, for example, www.yoursite.com/html/ to indicate that it's a directory, and not a file. Although it's true that unless you're UNIX-trained, you'll naturally assume that anything without a file extension is a directory, this is by no means always the case on the Web. Also, before it can follow the link, the browser has to interrogate the server to find out which it is.

4 Shrink those graphics

The Web can handle GIF graphics with up to 256 colours, but unless you have some superb photography you want to display, you probably don't need more than 16 at the most. In this case, make sure your artwork uses the Default window's colours: black, navy, maroon, blue, aqua, purple, grey, green, fuchsia, lime, olive, red, silver, teal, yellow and white (you can use these keywords in your background colour tags, but if you want to be more specific, you can use the hex colour specification, eg #0000FF for blue).

A 24-bit 16-million colour image that is 446 pixels wide x 162 pixels deep (an average sort of logo size) can be shrunk from 424Kb to a mere 35Kb, if it is converted into a 4-bit 16-colour image. As an in-between option, the 8-bit 256-colour version of the image checks out at about 143Kb. Remember that a 30Kb file can take 20 seconds to download on a typical 28.8Kbps modem.

While interlaced files are more user-friendly than non-interlaced ones, the interlacing typically adds about five per cent to the size of a

HINTS & TIPS@WORKS

Speed up your Web site

file: a 35Kb interlaced file will come down to about 33Kb non-interlaced. There's a lot of fine-tuning you can do on GIF files in particular, but if you like you can have this done for you by joining the GIF Wizard Web site (<http://reg.gifwizard.com/infohiway>) which will analyse your Web site graphics and tell you how much they can be shrunk in size without affecting the quality.

If you like the idea, then clicking on the appropriate link will make the changes for you. It claims size savings of 20 to 40 per cent on non-animated images and 50 to 70 per cent on animated ones, and our experience of its results confirms this.

Finally, do remember that there's a new Portable Network Graphics (PNG) format, which is said to be even more economical than GIF, with more colours. PNG is definitely the wave of the future, but don't start using it until everyone has browsers which support it. Also available is MNG (Multiple-image Network Graphics) for animations.

5 Turn off Java

Although we're keen Java fans here at *Internet.Works*, the fact remains that Java applets are still very slow. You should have a very good reason for including them on your site. JavaScript, on the other hand, can actually speed things up, believe it or not. See the next tip.

6 Preload images

Every image on your pages has to be downloaded separately. This means that a single Web page is actually put together from many single download commands, each of which means that a message has to be sent from the viewer to the Web server, processed, and then the process is repeated all over again.

But you can ensure that all the images are downloaded at the same time, by using a simple JavaScript command, as follows:

```
<SCRIPT LANGUAGE="JavaScript">
gif1 = new Image();
gif1.src = "Image1.gif";
gif2 = new Image();
gif2.src = "Image2.gif";
</SCRIPT>
```

Of course, this will slow down the initial page download, but since the

images don't have to be displayed until they're needed, the slow-down won't be perceptible to the user – although the speed-up certainly will!

7 More tables are less

Lots of Web designers are using tables to get over the fact that, in general, placing page elements exactly where you want them just hasn't been possible any other way. Don't be tempted, though, to design the whole page as one big table, because it won't begin to display until the entire table has been downloaded.

On the other hand, if you break up the table into a number of smaller tables, the first table will be displayed (and be readable) right away, and the remainder (probably not yet visible until the viewer scrolls down) can be downloading while the first table is being read.

8 Use style sheets

Cascading style sheets are the latest buzz-word on the Web, and they are truly brilliant. This is not only because they enable you to have control over complex layouts without using tables, but because once the style sheet has been downloaded (it's just like an ordinary HTML file, except it has a .css file extension instead of .htm or .html), it can be used over and over again, without any further downloads being necessary.

It can then be accessed using the <link> tag, which needs to be placed within the <head></head> tags at the beginning of each document using the style sheet:

```
<link title="style" rel=stylesheet
href=http://www.yoursite.com/style.
css type="text/css">
```

Don't forget that with style sheets, lots of the fancy graphics which most people create using GIFs can be displayed as text, and download much faster as a result.

9 Use the latest HTTP

Many Web servers are still using HTTP (hypertext teleprocessing protocol) 1.0, which opens and closes a new TCP connection for every single operation, and does it very slowly, because it doesn't know what speed

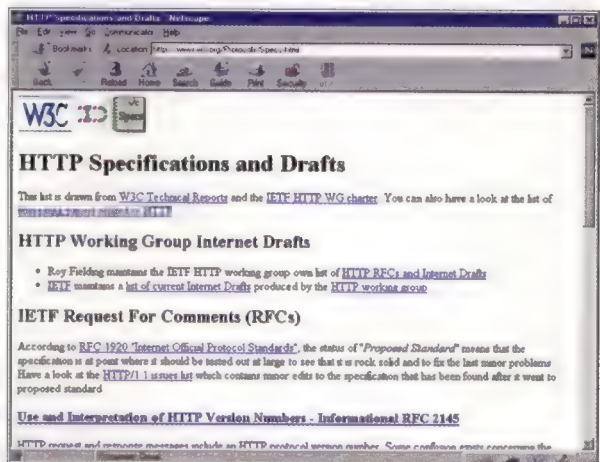
is optimum until it has checked out a few downloads. In contrast, HTTP version 1.1 holds the connection open and uses pipelining in order to optimise downloads.

The point is that most TCP communication between browser and server is superfluous. HTTP 1.1 cuts right through all the overhead.

10 Up your TCBs

Every time a user logs on to your site, the server allocates a fixed number of transaction control blocks (or TCBs) in memory. These can vary between 8Kb and 32Kb, and the server can allocate

The latest version of HTTP (1.1) uses pipelining to speed up downloading



between 256 and 1,024 TCBs. Even if a browser has moved on, those TCBs will still be held open for as long as two minutes to tidy up anything left over from the connection.

Because of this wait, a page with six images will tie up seven TCBs for a total of three minutes, and until they've been released, no one else can use them. This is when the browser gives the message: 'Host connected, awaiting reply'.

The first and most obvious thing you can do is to ensure that you've got enough memory on your server to service all the requests it's likely to get. The other is to increase the number of TCBs on the server.

Some servers enable you to have a truly enormous number of TCBs – AIX from IBM lets you have 32,000. Some, however, can limit you quite seriously. Ask your Webmaster to see if he or she can increase the number of TCBs (sometimes known as the Max User parameter). If, for instance, you find that you can't raise it above 512 (not uncommon), then change your Web server. ●

**Next month:
10 ways
to make
your
banner
more
effective**

Q&A

To start off the Q&A section of *Internet.Works* we're going to look at a few commonly asked questions. All the questions are basic, but you won't necessarily find the answers to them in a conventional textbook. Most of the answers use the CGI (Common Graphical Interface) scripting interface. If you haven't come across this before, then take a look at the answer to the first question for the address of an excellent tutorial site. We're also going to take a close look at one of the more complicated UNIX commands, which anyone who runs a site on Demon, or any other UNIX-based system, will come across in their day-to-day use.

Next month we'll be answering your questions, so get e-mailing to q&A@iwks.com

Designs of the times

Q How can I design a site that enables a client to go to a page and leave a paragraph of 'latest news' text, which then updates a latest news page within the site?

A A CGI script from a form can write to a file anywhere on the same system, as long as the file that is being written to has

write permission for 'others'. You'll need the Chmod command with parameters 600 or 606 depending on where you're running the script. See "The Chmod command" boxout below for more details.

A simple guestbook script with some slight changes to the CGI script would probably do the trick. There are plenty of good examples of this type of CGI script at Matt's Scripts Archive, which can be found at worldwidemart.com/scripts/ It's well worth a visit and a bookmark just to see what you can do in the CGI.

Beware! Unwanted visitors

Q I have set up a simple login CGI to a restricted group of pages. Is there any way to detect/prevent users from entering a specific document via the Backward and Forward keys, thus circumventing a login screen?

Illustration: Ant Visual Communication



A You can try a couple of things. When a person enters your site after the 'login' screen, check that the referer property (either via a JavaScript check or CGI script) is set to the URL of your 'login' page. That way, you'll know if they are coming through the 'login' or not and can take appropriate action.

For the Backward and Forward buttons to work, the pages have to get into the browser's cache, so the user must have entered your site at least once and entered via the login screen.

If the history property of the browser lasts longer than one session

The Chmod command

Q Can you please explain what 'Chmod 744' means and exactly why I need it?

A Chmod is a UNIX command for setting 'permissions' on a file or directory. The 'number', which looks like seven hundred-and-forty-four, is actually three single digits. The first slot of the three refers to permissions for the 'user' – the person/account who owns the file. The second slot of the three refers to the 'group' – people in the same UNIX group with the account. The third slot is for all 'others' – people not in the group, who aren't the user.

The numbers themselves are combinations of adding 1, 2 and 4. Here's what those three numbers mean:

1 = executable 2 = writable 4 = readable

So, setting a file's permissions via Chmod to 744 means this:

Value	User	Group	Other eXecute
(1)	yes	no	no Write
(2)	yes	no	no Read
(4)	yes	yes	yes
	7	4	4

The 'user' (person whose file it is) can read, write and execute the file, whereas

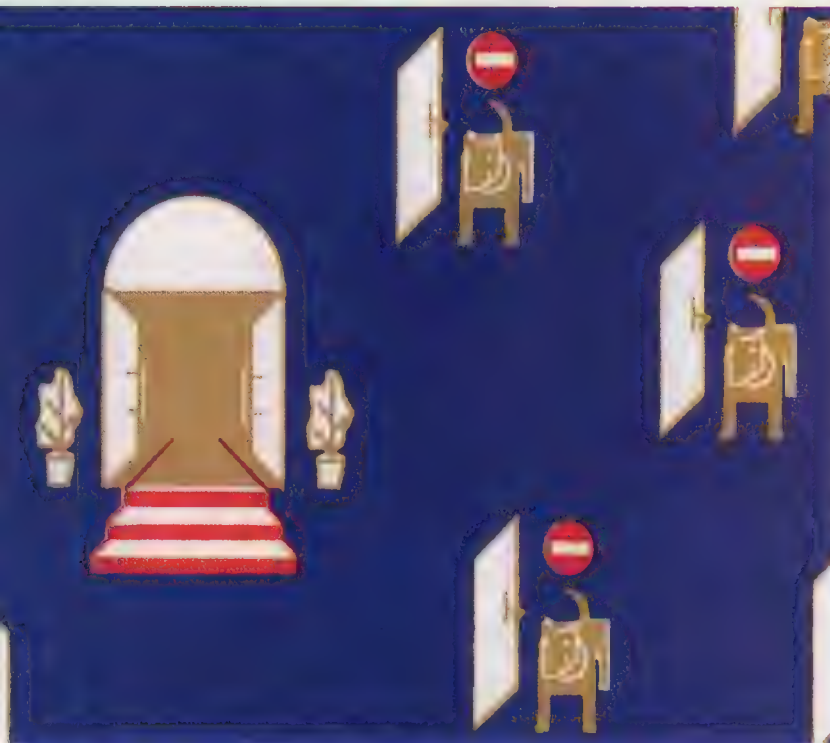
'group' and 'others' can only read the file. Other combinations would be readable and executable (5), writable and executable (3), writable and readable (6) or the obvious, to yield 1, 2 or 4.

As an aside, there's another way of notating permissions, using letters instead of numbers. `chmod 744 <filename>` could also be written in three steps with letters like this:

`"chmod a+r <filename>"` a = ugo = user, group and others; this gives everybody read permissions.

`"chmod u+wx <filename>"` this gives userwrite and execute permissions.

`"chmod go-wx <filename>"` this removes write and execute permissions for group and others (if those permissions were there in the first place).



(remember that not every browser does) or if you want the user to have to go through your login screen every time he or she accesses your site, life gets much more complicated and can only be solved using some rather complicated JavaScripts.

Basic CGIs?

Q Can you tell me, is there a way to program CGI Scripts in BASIC?

A The beauty of the Common Graphical Interface is that you can use practically any language. If your programming language can read from standard input, and print to standard output, you're set.

You just have to figure out how to decode the incoming information using your language of choice, and the rest is plain sailing. I don't know of any BASIC libraries for decoding input, but there are many for most major programming languages.

TalentSoft's WebPlus is a Web application development tool based on BASIC. You can learn to program CGI or other API Web applications within hours without any prior knowledge of CGI. Check out a copy at www.talentsoft.com

.dbf file query

Q I need a CGI script to run an HTML-submitted query (for a part number, for example) and search through a .dbf file to extract information, which it should then output to a fresh HTML page.

The .dbf file in question is a flat-file with only four fields, but it has a couple of thousand records. Do you have any suggestions?

A You could use the PERL module SPRITE, which works great with flat-file databases and it's very easy to query. For full details of SPRITE look at: corona.unomaha.edu/~payne/s/Sprite-3.1/Sprite.pm.html

All out of verifiers

Q I have been looking around the Net for a link verifier, which can verify local HTML links, check HTML links leaving the site, traverse the whole site and, more importantly, check links on pages created from CGI scripts.

I have found programs that do all the rest but not the CGI script testing. Any suggestions?

A This is an interesting problem because most Web sites encounter significant problems when trying to include up to 30 per cent of the external links being broken, usually because the external site has moved or died, or because of missing files, orphaned pages and faulty mail-to addresses.

This is all because the majority of Webmasters don't regularly check their sites for these problems. In fact, in many cases, they have never checked at all. The reason for this is because it's too time-consuming and difficult to do manually.

The solution is to use a link validator to test every link on your Web site.

One such solution is *LinkScan*, which will check your CGI and other automatically-generated pages. You can check your entire Web site today by downloading a free evaluation copy of *LinkScan*.

The file is less than 160Kbs so it will only take a few minutes. It's available at www.elsop.com/linkscan/

It will run on any UNIX or NT server and with virtually any browser on any platform. *LinkScan* has worked successfully on Web sites with over 80,000 pages and more than 50,000 external links. It checks external links at a rate exceeding 40,000 links per hour. Not bad!

In addition, *SiteHog* is an excellent UK-based link validator and can be found at www.redhog.com

If you want a list of other freeware validators, look at this page in the Elsop Webmaster Resource Center: www.elsop.com/wrc/comp_ls.htm ●

Keeping track

Q How do I build a Back button on my Web page? Is there an embedded browser command or does it have to be a hard-coded HTTP link?

A Most of them use hard-coded links, which can be a pain when you want to move things around, so you need to keep track of every link on the site. However, programs such as *Microsoft FrontPage* make things like this fairly easy to do.

A better way is something like:

```
<FORM> <INPUT TYPE=BUTTON VALUE="Back"
onclick="history.back()"> </FORM>
```

This will work with any JavaScript-enabled browser, even Microsoft's notoriously picky *Internet Explorer*.

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REVIEW

The *Internet.Works* Reviews section takes an indepth look at the latest software and hardware on the market, but this month we also take a look at a few we missed.

Tools of the trade

You should always gather your Web building implements around you before you start building your company's home page. Gillian Roach tries out a few essentials

Claris Em@iler 2.0

Main features: Can connect up to five e-mail accounts, retrieve mail by hour/minute, filter all e-mail traffic
Recommended hardware: 68020, 1.5Mb RAM (4Mb recommended), 3Mb free hard disk space
Minimum OS: System 7.0
Price: £49 or £39 to upgrade
Contact: Claris
Tel: 0181 756 4100 **Web:** www.claris.com/uk

Sending messages by e-mail will probably be the Web service you'll use the most. To make the most of it, you'll need a good e-mail client.

The latest version of *Claris Em@iler* is one of the best e-mail clients on the market, specifically for Mac users. It enables you to connect up to five e-mail accounts, including those from CompuServe, AOL and the Internet.

Setup is easy and the system can be configured to retrieve e-mails by the hour or the minute, from whichever e-mail account you prefer,

and sharing this information across different computing platforms is just as straightforward.

Em@iler is also perfect for drafting e-mails before they are sent, as it lets you save a half-finished letter and come back to it later for finalising and sending. Mail forwarding is another neat feature. If you're away on a business trip or on holiday, you can configure *Em@iler* to forward all e-mails sent to a specific account, to a new address. *Em@iler* can even reply to the forwarded e-mail to say where you are and when the message has been forwarded.

Another feature enables you to filter all e-mail traffic coming to your machine to e-mail addresses in other departments who can deal with the query more efficiently. *Em@iler* equals true e-mail automation and is perfect as the first line of customer service contact for your company.

Eudora Pro 3.11

Main features: enhanced filtering, drag-and-drop facility, customisable messages
Recommended hardware: PC – Pentium 100; Mac – LC; 16Mb RAM
Minimum OS: PC – Windows 95/NT; Mac – System 7.0
Price: £60 **Contact:** Qualcomm
Tel: 01223 501333
Web: www.eudora.co.uk

A large percentage of people using *Eudora* will be using *Eudora Light*, which is freeware downloadable from the Web. However, *Eudora Light* is missing many of the more useful features included in *Eudora Pro 3.11*. Enhanced filtering is one such feature. It is vital for those receiving a lot of mail as it lets you sort mail into various mail boxes, forward it and even draw attention when an important message comes in.

One nifty little feature of *Eudora Pro* is its ability to let you drag and drop mail messages into folders on your hard drive and even pull images on to your desktop for later use. Also,

if you use 32-bit Windows you can create individual messages by incorporating one of the many font styles, sizes and colours supported by the client.

Eudora Pro is great if you want a powerful, feature-laden e-mail client but want fun with your mail, too.

WebEdit Pro 2.0

Main features: enables you to create HTML docs of any size and work on several docs at the same time, preview mode, spelling checker
Recommended hardware: 486, 16Mb RAM, 10Mb free disk space
Minimum OS: Windows 95/NT
Price: £22.32 (inc VAT)
Distributor: Watford Electronics
Tel: 01923 237774
Web: www.luckman.com/

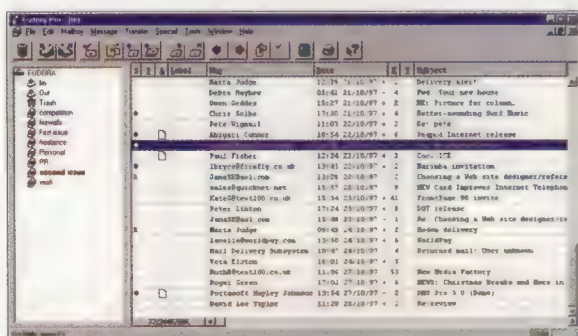
A rival to *HotMetal Pro* in the HTML editor stakes is Luckman's *WebEdit Pro 2.0*, the 32-bit editor for Windows 95 and Windows NT. It enables you to create complex HTML documents of any size, if you have enough disk space, and to work on several documents at the same time.

WebEdit is a heavy-duty package that uses a string of dialog boxes to help you create links, images and tables. Its URL builder also takes the drudge out of creating URLs as it saves the information every time you enter a URL so you don't have to keep retyping it over and over again.

The Quick Preview screen supports all HTML tags, including HTML 3.2, and also supports background images, font colours, sizes, forms and tables. This means that every time you preview your work-in-progress, you get a realistic image of what it will actually look like, without previewing it on the Web. That said, it is just as easy to test your documents using a Windows-based browser.

WebEdit supports many of the HTML tags in wide use. The editor will accept all HTML block formatting

Eudora Pro lets you filter your e-mail into separate folders



tags, such as <ADDRESS>, <BLOCK-QUOTE>, and <PRE>, plus HTML 3 and Netscape-specific attributes.

A useful extra feature is the multilingual spelling checker. Not all the sites you will be creating may be in English, so it's reassuring to know that your site in German will be as word perfect as your English one.

WebEdit also enables you to save files in either UNIX or Mac format, which means no more annoying character changes when saving across platforms.

NetMeeting 2.0

Main features: enables multiple users to share applications, enables visual representation while you are conferencing

Recommended hardware: Pentium 100,

32Mb RAM

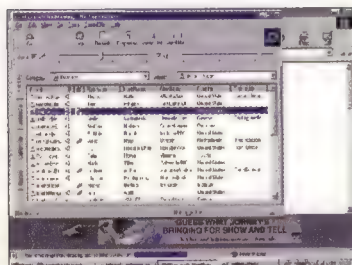
Minimum OS: PC – Windows 3.1/NT 3.51, Mac – System 7.0; UNIX

Price: Freeware

Contact: Microsoft

Tel: 01734 270000

Web: www.microsoft.com/netmeeting/



NetMeeting 2.0 can save you money by eliminating the need to have everyone in one place for a meeting

Board meetings may never be the same again if NetMeeting has anything to do with it. Microsoft's TCP/IP-based videoconferencing suite enables multiple users to see each other while chatting online and share applications and 'whiteboards'.

Once a call is made and two or more users are online, NetMeeting enables you to chat to each other by typing in information or speaking through a microphone, both of which can be accompanied by a visual representation on screen.

The image sent via the Web is not TV quality, as this would require huge amounts of bandwidth. However, with a 33.6Kbps modem you can expect three to seven frames a second, which means that what you hear and what you see may be a second or so out of sync.

NetMeeting 2.0 is currently bundled with Internet Explorer 4.0

and will be available with Windows 98. It is also downloadable from the Web as freeware.

NetObjects Fusion

Main features: WYSIWYG Web design tool

Recommended hardware: Pentium 100, 32Mb RAM

Minimum OS: Windows 95/NT

Price: £450

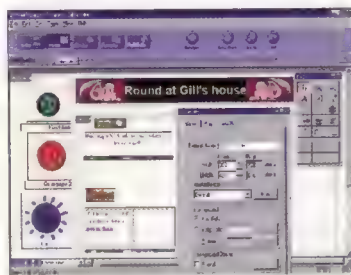
Contact: Unipalm Tel: 01638 569600

Web: www.netobjects.com

If you don't know the first thing about HTML, NetObjects' Fusion is here to help. It's one of the more user-friendly WYSIWYG Web site design tools on the market, with an easy to navigate interface.

Five buttons at the top of the screen enable you to view different aspects of the page in progress: the Site button shows you an overview of all the pages you have created and where they lie in relation to each other; the Page button opens up the site you are working on; the Style and Assets buttons give you information on design and objects on your site, such as applets and the Publish button launches your scribbles on to the Internet.

One feature that sets Fusion apart from other Web site design tools, such as FrontPage 98, is its design gallery. You can set a theme for your site, so that every time you create a button or bullet-point icon, it will be chosen from a pre-determined set of page furniture in keeping with the style of your site.



Give your Web page a theme with NetObjects Fusion design tool

QuarkImmedia

Main features: interactive multimedia capabilities

Recommended hardware: 68030 or PowerPC based Mac OS compatible computer

Minimum OS: System 7.1

Extras: QuarkXPress 3.32

Price: £689.95 (inc VAT)

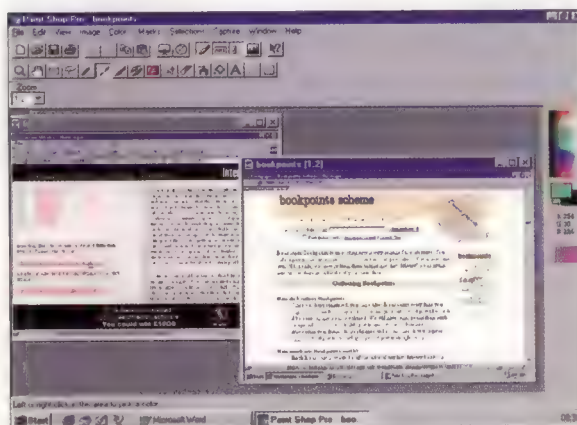
Distributor: Technomatic

Tel: 0990 661222 Web: www.quark.com

If you want to publish pages in their entirety on your Web site, then Quark, king of all page layout software, has one of the best options. QuarkImmedia is an add-on for QuarkXPress that will transform your software into a suite of Web design goodies.

With QuarkImmedia you can take a normal Quark page and transform it into an interactive multimedia experience. In other words, you can make bits of the page move by adding HTML tags. However, as it is a WYSIWYG editor, you won't need to learn any code to achieve perfection.

But in order to browse pages built with QuarkImmedia viewers, whether using a Mac, Win 95, NT or Unix, you will have to download a viewer first. This is not such a hassle in itself, but it could mean the difference between gaining 100 and 75 hits a day.



PaintShop Pro 4.14

Main features: simple drawing program with plenty of special effects

Recommended hardware: Pentium 100, 16Mb RAM

Minimum OS: Windows 95/NT 4.0

Price: £57.58 (inc VAT)

Distributor: Digital Workshop

Tel: 01295 258335

Web: www.digitalworkshop.co.uk

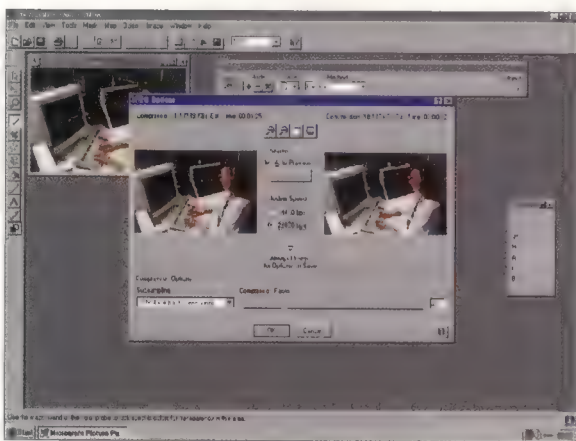
Coat your text in hot wax, with JASC's PaintShop Pro

For designing, editing and converting images to GIF files for use on your Web site, JASC's PaintShop Pro 4.14 is a must. It's not a complex drawing package but if you don't want to spend hours getting to grips with a design package, just to create some simple graphics, it's ideal.

PaintShop Pro enables you to save files in GIF format (with or without transparency), ready to be incorporated into your Web site. ➔

Tools of the trade

It also has an impressive array of special effects such as 'drop shadow', 'hot wax coat' or 'cutout'. It is also easy to create realistic buttons with *PaintShop Pro* using the special effect 'buttonize'. It really is as simple as drawing a box and using the buttonize special effect. The box will now have bevelled edges. Apart from these features, *PaintShop Pro* has the usual list of image editing and painting options expected from a comprehensive drawing package. There's also a 30-day trial shareware copy on the *Internet.Works* CD for you to try out.



Web site looking a bit dull? Jazz it up with the Micrografx Webtricity box of tricks

Micrografx Webtricity

Main features: combines 3D modelling, photo editing, drawing and file import and export info in one package
Recommended hardware: Pentium, 16Mb RAM
Minimum OS: Windows 95/NT
Price: £129 (inc VAT)
Contact: Micrografx
Tel: 0118 988 2992
Web: www.micrografx.com/webtricity/

Micrografx has made designing Web graphics easy by putting all you need into one box. *Webtricity* is a four-in-one Web graphics design package that is *Microsoft Office 97* compatible. The first in the line-up is *Micrografx Simply 3D2*, a powerful real-time 3D modelling package that lets you create animated GIFs and avi files to add depth to your page.

Picture Publisher 7 is a photo editing and image creation tool with a few Web graphics additions. Patterned Web site backgrounds are easy to create as well as tiled photo backgrounds. *Micrografx Designer 7* acts like a conventional drawing package but is optimised for creating Web-based graphics.

Finally, *Micrografx Media Manager* gives you import and export information for all the file formats used in the creation of your site, making it easy to keep tabs on which images are where when creating large Web sites. Also bundled are *Videocraft*, *Mapthis!* and *Quicksilver*. *Webtricity* provides you with all you'll ever need for jazzing up your Web site and, conveniently, it all comes in the same box!

Jamba 2.0

Main features: code-free design applet with wizards, sound creation facilities
Recommended hardware: Pentium 100, 16Mb RAM
Minimum OS: Windows 95/NT 4.0
Price: £145 (exclusive of VAT)
Contact: Interleaf
Tel: 01932 356800
Web: www.amitech.com

If you want to jazz up your site with applets but don't know the first thing about Java, then *Jamba 2.0* is the software for you. *Jamba* is the *FrontPage 98* of applet design; it gives you a selection of tools with which to build your applet the way you want it. No code involved.

As WYSIWYG editors go, *Jamba* is one of the easiest to use, giving you on-line help when you get yourself into a fix and leading you through the design of your applet step by step. If you have no idea what kind of applet you want to create, *Jamba's* series of wizards give you ideas by showing you a range of typical applets such as ticker-tape text or moving characters.

Jamba also enables you to add sound to your applets. Once created, your applet can be merged with an audio file so that whenever someone clicks on the applet they will see an animated applet and hear sound at the same time. Once you have an applet you are happy with, you can test it out in *Jamba's* built-in viewer.

Although *Jamba* might look like a beginner's tool, it is possible to create complex applets that look professional in a short space of time with almost no knowledge of Java.

Using applets was once the privilege of Java programmers, but now they can be used by anyone to add a bit of spice to their site.

Free Agent 1.11

Main features: available in 16- or 32-bit, enables you to browse newsgroups on- or off-line

Recommended hardware: Pentium 100 or (min Mac proc), 16Mb RAM
Minimum OS: PC - Windows 95/NT; Mac - System 7.0
Price: Freeware
Distributor: Foobar Internet
Tel: 0116 230033
Web: www.forteinc.com/agent/

If you subscribe to newsgroups on the Internet, then you'll need a news reader. *Free Agent* is competing with the likes of Win VN and *NewsExpress* for supremacy in the news-reading market and is doing well.

Free Agent, available in 16-bit and 32-bit versions, enables you to browse newsgroups on or off-line. In off-line mode, the software will briefly connect to the server to collect article headers. You can then browse them off-line and decide which ones interest you. *Free Agent* then goes back on-line to download the articles you are interested in. This saves you both time and money.

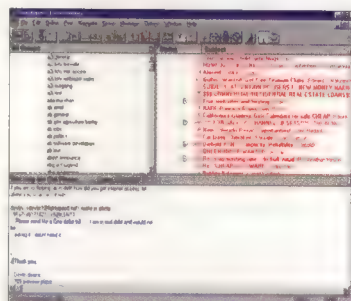
You can also tailor the software to your own needs. You can tell it to keep only the new headers, keep them for as long as they are valid or a selection of other commands. *Free Agent* will also display each new article with the old one, so you know which information is in response.

Free Agent is freeware and is downloadable from the site above.

Agentware Suite

Main features: has agents that you train to look up specific info
Recommended hardware: Pentium 100, 16Mb RAM, 10Mb free hard disk space
Extras: Internet Explorer 3.0 or Netscape Navigator 2.0
Minimum OS: Windows 95/NT
Price: £49.99
Contact: Autonomy Systems Ltd
Tel: 01223 421220
Web: www.agentware.com

You need some information. You know it must be on the Web, but you don't know where. It's been a hard



Subscribed to too many newsgroups? Not a problem with FreeAgent

day at the office and you really can't face one million search engine results. You just want the information and you want it now. Take a deep breath because intelligent help is at hand.

Autonomy's *Agentware Suite* gives you Web slaves to do your bidding. These slaves are called 'agents', and they come in the form of cute animated dogs. Don't be deceived: beneath their friendly exterior is an intelligence that bites.

These intelligent agents were created by an Artificial Intelligence company in Cambridge while it was researching neural networks. So if anyone thinks you're playing games when they see the hounds sniffing around your desktop, you know what to tell them. Autonomy bundles power with simplicity in its program and *Agentware* is more user-friendly than your average search engine. Train your agents to search for information using everyday English instead of confusing keywords. The agents are clever enough to understand and they learn as they go. Best of all, they stay focused and don't get distracted – as we humans do – by interesting hyperlinks. So tell your dogs to go to work while you do something less boring instead.

WinZip 6.2

Main features: easy to use file decompression program

Recommended hardware: Pentium 100, 16Mb RAM

Minimum OS: Windows 3.11

Price: Freeware

Contact: PDSL

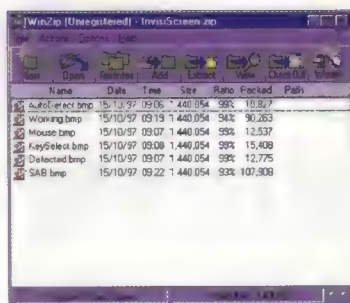
Tel: 01892 663298

Web: www.winzip.com

Sooner or later, you'll have to install a program that unzips .zip files. They're everywhere and they are incredibly useful. If someone sends you some crucial information by e-mail but zipped it up for quicker delivery, then you'll need to unzip it. Maybe you've downloaded a program from the Web that you've always wanted and now it's sitting on your hard drive. You'll need to unzip that, too.

A .zip file is one that has been compressed to make the file size smaller. The Internet and electronic communication might be revolutionary but it can also be slow. Bandwidth is always an issue and so compression is invaluable.

Working with .zip files is not difficult. All you need is a program



WinZip 6.2 unzips .zip files. You just can't live without it

that will zip and unzip for you. WinZip is one of the best. It operates in two modes – advanced or beginner – and is striking in its simplicity. Whenever you run a .zip file, WinZip bounds forth from the darkness of your desktop and guides you through the unzipping process. Using WinZip is a breeze.

Adobe Acrobat Reader

Main features: free and easy to install

Recommended hardware: Pentium 100, 16Mb RAM, 7Mb temporary space for installation

Extras: Internet Explorer 3.0 or Netscape Navigator 3.0

Minimum OS: Windows 3.11

Price: Freeware

Contact: Adobe Systems

Tel: 0181 606 4000

Web: www.adobe.com

PDF files are documents created or converted using *Adobe Acrobat* software. They might seem mysterious or just another file-type (.pdf) but actually they have made life easier for many businesses. PDF documents are easily created and can be read on any computing platform. It's a simple format and better suited to many types of business documentation than HTML-coded Web pages. You can't create PDF files with *Adobe Acrobat* but you need this to view them. It's free and easy to install.

As a plug-in, *Adobe Acrobat* integrates seamlessly with *Netscape Navigator 3.0* or *Microsoft Explorer 3.0*, so that you can view PDF files embedded in Web pages. But *Adobe Acrobat* also works as a standalone application. This means you can view PDF files off-line without loading your browser. *Adobe Acrobat* takes up more hard disk space but it prepares you for accessing PDF files however you might receive them – via the Web, e-mail, disc or diskette. Neat features include page-by-page

navigation for swift perusal of large documents and a zoom function for easier reading. To save you time downloading there's a copy of all the readers on the *Internet.Works* CD

Shockwave

Main features: brings Web pages to life with animation, sound and video

Recommended hardware: Pentium 100 or PowerMac, 16Mb RAM

Minimum OS: PC – Windows 95; Mac – System 7.1.2

Price: Freeware

Contact: Macromedia

Tel: 01344 458600

Web: www.macromedia.com

Shockwave is an essential plug-in for World Wide Web viewing.

A number of Web pages have been shocked into dynamic life. *Shockwave* enables you to experience sound, video and animation on the Web, and has been created using Macromedia software. It's well established and an absolute must-have for any browser.

If you only ever load one plug-in make sure its Shockwave



RealPlayer

Main features: speeds up download times by streaming audio and video

Recommended hardware: Pentium 100 or PowerMac, 16Mb RAM

Minimum OS: PC – Windows 95 (Win 3.11 for sound only version); Mac – System 7.1.2

Price: Freeware

Contact: Real Networks

Tel: 0171 629 4020 Web: www.real.com

There's a lot of sound on the Net – news reports, record tracks, concerts, and live radio broadcasts – vying for your attention. To hear most of it, you'll need to have *RealPlayer* installed on your machine.

This sophisticated plug-in saves on download time by streaming audio and video so you can watch and listen as a file loads. Crucial for every Internet user with speakers. ●

Web it yourself

WYSIWYG Web editors

With a Web presence becoming essential for even the smallest business, *Simon Bisson* looks at the three best-selling Web page editors to see if you can Web it yourself

It has become increasingly important for businesses to have a presence on the World Wide Web, and this is much easier and cheaper than many people think. Thanks to the healthy competition between Britain's Internet service providers, it's possible to own a Web site for as little as £10 a month.

You could pay for a Web design consultancy to build your pages, but the latest Web design packages make creating a Web page as easy as using a word processor. With What You See Is What You Get (WYSIWYG) editors, you don't even need to know what an HTML tag is, and the libraries of images, buttons and backgrounds offered with such packages mean you don't need to make your own icons.

There are plenty of packages on the market, from freeware tools to specialised Web design packages full

of multimedia bells and whistles via add-ons for popular word processors. Web page editors are packed full of features designed to help you make the most of the Web, but there are some features that are more important than others and some that, although they sound impressive, could limit the number of providers you can use to host your site.

The concept of hypertext is the key to the World Wide Web: chains of documents linked together by keywords and navigation buttons. Building a Web site isn't like writing a report or a brochure – you need to keep track of every link between each page and the rest of the Web.

Broken links don't give people a good impression of your business, so a good Web design package will include a site management tool. You can use this to find and repair broken links, and keep track of the pages you've uploaded to your site. You'll find the best site management tools give you as many different views of your Web site as possible, from graphical site maps to file lists, so you can work with your pages exactly as you want.

It's not difficult to design a Web page, but it is hard to design one that works well with all browsers and servers. While some editors have

preview modes and the latest take advantage of component technology to embed browsers, it's sensible to use one that can use external browsers to test pages. And while most enable you to choose one browser, some let you build a list of all the browsers and then select which one you're going to use.

You need to be careful of page editors that use their own proprietary server extensions. The Internet is built on open standards and voluntary co-operation, and tools designed to lock users into specific browsers, servers and operating systems are frowned upon. However, if you're going to run your own server, these can be advantageous, as proprietary extensions can reduce the amount of time needed to build dynamic and interactive pages.

Do take advantage of the latest Web technologies on your pages. Java, plug-ins and ActiveX objects enable you to add extra multimedia and features, while JavaScript and VBScript enable you to turn them into programs. Even if an editor doesn't support these features directly, you'll be able to use any HTML editing modes to add them yourself – just be sure that the Web editor doesn't delete any page elements it doesn't consider to be valid HTML.

The HTML standard is always changing, so be sure that there's an upgrade path – or at least a way of adding your own code. Some of the latest tools are designed to produce dynamic HTML, which adds extra scriptable features to your pages. However, dynamic HTML has yet to be made part of the proposed HTML 4.0 standard, and both Microsoft and Netscape have different ideas of how it should be implemented.

On test

We tested the latest versions of *Adobe PageMill*, *Claris Home Page* and *Microsoft FrontPage*, looking at how easily they help you to design Web pages and what extra features they offer.



Adobe PageMill 2.0

Manufacturer: Adobe

Main features: WYSIWYG Web page designer, Photoshop LE image editor, SiteMill site management tool (Mac only), large image library

Recommended hardware: PC – 486, 8Mb RAM, 10Mb hard disk; **Mac:** 68040, 8Mb RAM, 13.5Mb hard disk space

Minimum OS: PC – Windows 95 or NT 4.0;

Mac – System 7.01 (1.2 for PowerMac)

Price: £93 (inc VAT)

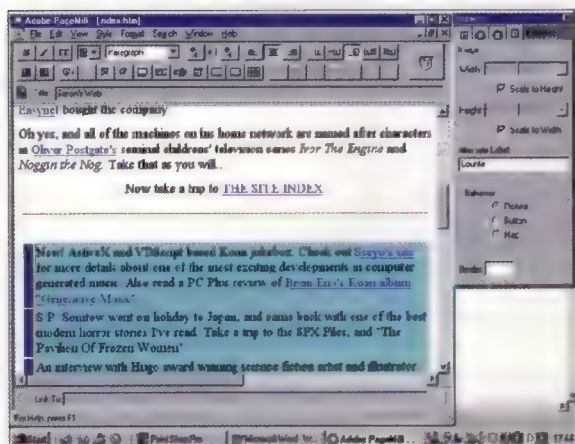
Contact: Adobe Systems Europe Ltd

Tel: 0131 453 2211

Web address: <http://www.adobe.co.uk/>



There's little difference between the Macintosh and PC versions of PageMill 2.0. Using the Editor and the Inspector you can quickly put together a well-designed Web page that will work with most browsers



One of the first WYSIWYG editors to be announced was Adobe's *PageMill*.

Coming from the home of PostScript and *Photoshop*, it's not surprising that *PageMill* was originally developed for the Mac. Fortunately, the latest version is now also available for both Windows 95 and Windows NT.

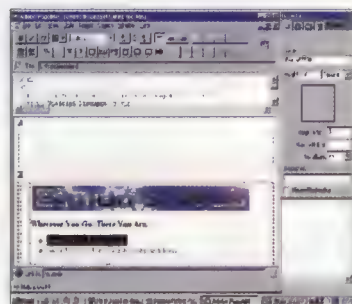
In typical Adobe style, the installer is localised for a large number of different languages, with each location described in its native tongue and Belgium heading the list. Both PC and Macintosh install the same basic package: *PageMill*, various plug-ins, tutorials and logos.

There's little difference between the Mac and PC versions of *PageMill* 2.0, but Mac Webmasters will find that Adobe's *SiteMill* Web site management package is included, with PC users only getting a simple FTP-based upload tool.

Also included is a cutdown copy of *Photoshop LE*, Acrobat Reader and QuickTime the movie player, and trial versions of third-party Internet tools and royalty-free samples of Web-ready image libraries.

Compared to other WYSIWYG Web editing tools, *PageMill*'s interface is very simple, based around two windows: the Editor and the Inspector. The Editor is the heart of *PageMill*, and can be used both to edit and preview your Web pages. You can also use it to edit the raw HTML code, and as *PageMill* doesn't support the full HTML 3.2 specification or the Microsoft and Netscape extensions, you'll probably want to use this frequently.

Windows users will find that *PageMill* behaves just like its



Macintosh counterpart. As the Mac uses only a single button mouse, the Windows version of *PageMill* 2.0 doesn't use right-mouse button-context menus. Instead, you need to use the Inspector window to change the properties of any objects on your Web page. Four tabs enable you to switch quickly between page and frame attributes and table and object properties.

If you're used to working with packages designed for Windows 95, you'll find jumping to and from the Inspector window awkward.

Split windows

PageMill makes designing frame-based sites easy. All you need to do is split the current window either horizontally or vertically, and then work with each section as a separate Web page. You can even work with some frame elements as raw HTML and others as WYSIWYG in the same Editor window; *PageMill* generates the overall frameset automatically.

There's little support in *PageMill* for extended HTML attributes. If you want to set font types or extended table properties, you'll need to edit the HTML source directly. *PageMill* won't show any changes you make, so you'll have to use an external Web browser to preview your pages.

More complex HTML code needs to be hidden behind placeholders. These are proprietary HTML extensions that are ignored by Web browsers and used to prevent client and server-side scripts from affecting page layouts. If you're using placeholders to mark ActiveX objects or multimedia JavaScripts, you can customise them to display an image that'll show what your code is intended to produce.

The World Wide Web is a hypertext system made up of linked objects, but *PageMill*'s link editing tool is somewhat

Designing frame-based Web sites is quick and easy with PageMill. Just split your page, add your menu items, and you're ready to go. You can even mix HTML source and WYSIWYG editing in the same frameset

PageMill makes designing frame-based sites easy

In brief

Adobe is best known for its *Photoshop* image editor, and *PageMill* isn't going to change this reputation. A competent tool at best, its lack of support for state-of-the-art Web technologies is a disadvantage. It's at its best on the Mac, thanks to the bundled *SiteMill* Web site management package.

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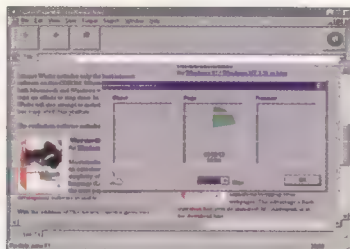
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Web it yourself

A useful *PageMill* feature is the estimated download times, which works for a particular graphic or the whole page



⚡ Idiosyncratic. A link bar at the bottom of the Editor window is used both to display and add new links. Confusingly, it is greyed out until clicked on, although you can drag and drop text on to the link.

However, you can't drag images and must select each one, then click on the link bar before adding URLs. You can also use *PageMill* to create client and server-side image maps, with an easy-to-use image editor.

PageMill doesn't contain any site management tools, but Macintosh users will find that Adobe now includes its *SiteMill* program. With *SiteMill*'s Finder-like display, you can explore the structure of your Web site's links and repair broken links and rename files. Double-clicking on a page launches *PageMill*, so you'll find using *SiteMill* as a page manager the

best way to work with *PageMill* on the Mac.

There's no graphical site map, but easy-to-read icons show links between frames, pages and images. You'll need to have a local copy of a site to use *SiteMill*, and you can use the built-in FTP tool to upload your pages to a live Web server. ●

Features	●●●●○
Ease of Use	●●●●○
Value for money	●●●●○
Documentation	●●●●○
Overall	●●●●○

Claris Home Page 2.0

Manufacturer: Claris

Main features: WYSIWYG Web page designer, upload tool, element libraries, Java support

Recommended hardware: PC – 486, 8Mb RAM (16Mb RAM for NT), 4Mb free hard disk space; **Mac** – 68020, 8Mb RAM, 2Mb free hard disk space (6Mb for full install)

Minimum OS: PC – Windows 95 or Windows NT 3.5.1; **Mac** – System 7.1

Price: £106 (inc VAT)

Contact: Claris International, Inc

Tel: 0181 756 0101

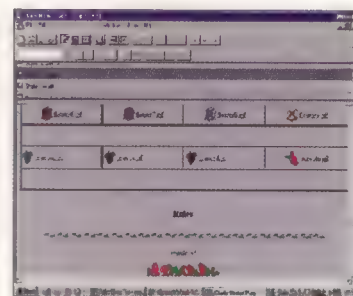
Web address: <http://www.claris.com/uk/>

Claris' *Home Page* is the latest in a long line of WYSIWYG tools from the software arm of Apple. Best known for its *FileMaker Pro* database, Claris has been adding Internet tools to its line-up of Macintosh and PC software, with the *Home Page* Web site design tool and *Em@iler*, a Macintosh POP3 e-mail client. Like *Adobe PageMill*, *Home Page* was originally developed for the Macintosh, but now a version is also available for Windows 95 and NT.

Installation is quick and easy, with both PC and Mac installing the same basic options: *Home Page*, a series of clip art libraries and a comprehensive online tutorial. If you don't have a CD-ROM drive, you can order a set of disks from Claris, but you'll have to pay an extra £29.40 for the privilege.

There are plenty of extras on the CD-ROM, with sample images from several Web image library collections and a multimedia introduction to the Internet called *Internet: The City*. You'll find working with clip art samples easy, as they are provided in Claris' library format. As well as individual buttons, bars and backgrounds, you'll find some well-designed page themes with their own animated GIFs. There's quite a bit more on the Mac CD-ROM, with a software bundle that includes a Web server and a CGI tool that links Claris' popular *FileMaker Pro* database to the Web.

Once installed, *Home Page* is easy to use and it works like most word processors. You can work either as a



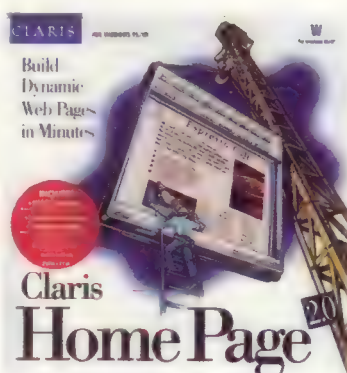
Home Page's image libraries are its best feature. Store your favourite images, then drag and drop them into your Web pages

WYSIWYG page editor or with raw HTML. Some options are unusually hard to find, though. If you want to give a page a title or change the background colour, you'll need to track down the Document Options – hidden deep in the Edit menu. You can edit most other Web page parameters from the Object editor, though you'll need to use the HTML source mode to add Netscape and Microsoft HTML extensions or JavaScript. *Home Page* enables you to work with some of the latest Web technologies, and you can use it to add plug-ins and Java applets to your pages. If you want to use ActiveX components, you'll have to work directly with the HTML.

Adding tables to a *Home Page* Web page is easy. However, you can't edit the format of individual cells or see table backgrounds. The table object editor enables you to add extra HTML, but you'll need to have a Web browser to hand to see how

In brief

Coming from the makers of the deceptively simple *FileMaker Pro*, we expected a lot more from *Claris Home Page*. Unfortunately, it's let down by poor online help and a difficult-to-navigate interface. You're likely to find its libraries useful if you need to store commonly used page elements.



your pages will look when uploaded on to a Web server.

Home Page's frame editor is disappointing. The Frame Wizard isn't as easy to use as it purports and produces complex and ugly page layouts. Luckily it's relatively easy to edit a frameset once created, but you need to edit each page separately.

Home Page's best feature is its libraries, which are more than just clip art stores. These are well organised and let you drag and drop elements on to your Web pages. Creating your own libraries is easy – just cut and paste your images and text to build an indexed library that can be shared among a group of site developers. You can also annotate existing libraries, adding descriptions and comments to elements, thus enabling you to keep track of what is used where. If you're stuck for design inspiration, you can use *Home Page's* site templates, which are ready-made business and personal pages.

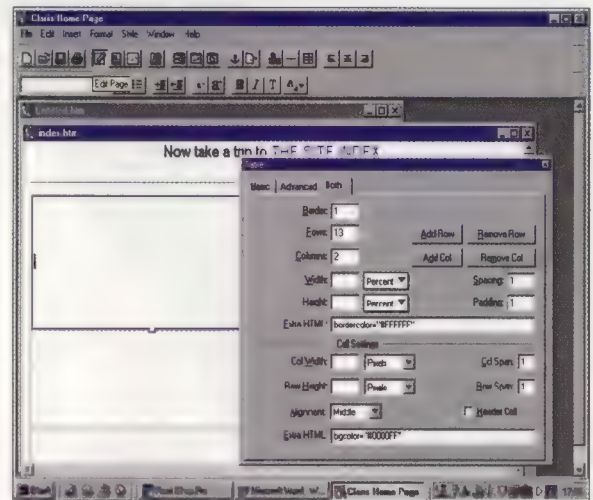
There's no real site management facility in *Home Page*, so you'll need to keep track of your site and links yourself. You can create a site description file, which is used by

Home Page's built-in FTP tool, and this will log the number of pages in a local directory and make sure that all images are stored in a single local images directory before uploading to a server. You can also use the description file to record where on the server your pages will be kept, as well as making sure that only changed files are uploaded.

Transferring files to and from a Web server can be complex, but *Home Page* includes an FTP tool designed to make this as easy as opening and closing a file. You do need to know the names of any files you want to download, and *Home Page* will only download the raw HTML page, so you have to copy any images or sounds separately.

You can also use *Home Page* to see how long a file will take to download, though in these days of 33.6Kbps modems and ISDN, it's strange to see the 14.4Kbps download times for a Web page.

Clarix uses its own help file format on both PC and Mac, and Windows users will find it slow and difficult to use. There's no search facility, despite a comprehensive



index. If you have the latest version of the Adobe Acrobat Reader, you can choose to use the Acrobat versions of the *Home Page* documentation rather than the online help.

Features	●●●○
Ease of Use	●●●○
Value for money	●●●○
Documentation	●●●○
Overall	●●●○

Building pages in Home Page 2.0 is quick and easy – just type your text and add your links and objects. It's not true WYSIWYG, though, as you can add extra parameters such as table colours, which aren't displayed

Microsoft FrontPage 98 Beta 2

Manufacturer: Microsoft

Main features: WYSIWYG Web page designer with site management tool, server and client scripting, CDF creation tool, dynamic HTML support

Recommended hardware: 486, 16Mb RAM, (32Mb RAM for NT), 36Mb free hard disk space

Minimum OS: Windows 95, NT 4.0 or NT Server 4.0

Price: Free beta download – expires 31/12/1997 (release due November 1997 – expected price £149)

Contact: Microsoft Ltd, Winnersh, Wokingham, Berkshire, RG41 5TP

Tel: 0345 002000

Web address: <http://www.eu.microsoft.com/frontpage>



Microsoft's *FrontPage* Web site design and maintenance system has been a popular tool since its release in 1996. Combining a WYSIWYG Web page editor with a graphical site management tool, *FrontPage* has entered its third generation with the public beta of the new 98 model, designed to produce Web sites for the latest browsers.

FrontPage 98 consists of two separate programs – the Explorer and the Editor. The Explorer is the heart of *FrontPage 98* and is a powerful Web site management tool. Its new-look interface is a considerable improvement over *FrontPage 97's* and takes advantage of the icon-based control bar introduced in *Outlook 97* and used by Microsoft's new Internet mail tool, *Outlook Express*.

You can use this to switch between a wide range of different views of any site you're working on – from a simple file view to the new

navigation view. If you've used NetObjects' *Fusion* (see our review on p74), you'll find the navigation view familiar – it uses an organisation chart to control links between pages. You can design a site by dragging and dropping page templates on to the navigation view. You can also use this to add navigation buttons and bars to existing sites.

FrontPage's navigation bars use what Microsoft calls 'server-side document expansion', so you need the latest *FrontPage 98* server extensions installed on your Web server. These are a mix of server side scripts and Web server add-ons that make adding dynamic content to your site a case of pressing a button. However, these add-ons aren't usually used by Web hosts (especially after a security hole was found in an earlier version), so you'll have to shop around or run your own Web server! There's also a list of providers on Microsoft's Web site.

The *FrontPage* Editor uses

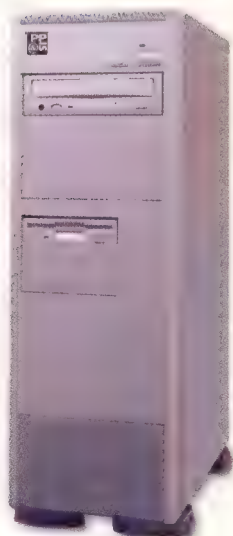


Wizards and templates make it easy to build a new Web site

Installation so simple even Archie can do it.



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E-mail, Remote diagnosis,
Virus protection and Web presence.



www.ppis.net

You don't have to be a computer wiz to install our Plug and Play Internet System. In fact it helps if you're not.

PPIS is designed for the technically inept and caters for the incompetent. Connecting to any new or existing network it comes complete with everything required to bring the super-highway into any office environment - fast. Follow seven simple prompts and let PPIS do the rest. It will open an account on screen and even vet your choice of domain name to see if it's already in use.

To get your paws on more information call:

Osmosis on: 0181 568 0077 or Unipalm on 01638 569600

A solution so advanced, you don't have to be



Web it yourself

three tabs that let you switch quickly between the familiar Word-like WYSIWYG Web page editor, an HTML editor for the raw stuff of the Web and a preview. The preview window is an embedded copy of Internet Explorer and is a lot faster than launching an external browser every time you want to see how your pages will look on the Web.

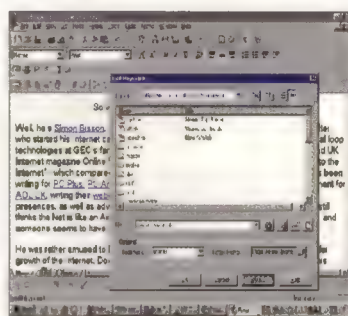
FrontPage 98 includes WYSIWYG frame layout, enabling you to develop frame-based Web sites quickly and easily. We were able to design an image-map-driven, frame-based navigation system with just a couple of mouse clicks. Microsoft's latest browser Internet Explorer 4.0 supports 'Dynamic HTML', which is likely to become part of the emerging HTML 4.0 standard, and it's not surprising to find FrontPage using this to add simple animations to a Web page.

FrontPage's wizards and templates make it easy to build a

new Web site. While these are aimed at corporate intranets – especially the Project Web – you can use them for personal sites.

Page design is simplified by the introduction of Themes, a mix of predefined buttons, banners, fonts and layouts, which you can quickly customise with your own messages. Even though they are based on the CSS style-sheet Web page formatting standard, Themes aren't displayed unless the latest version of FrontPage's server extensions is used, because they use a single directory to control the look and feel of an entire Web site. With a bit of work you can use them on other Web servers, but you'll need to get into raw HTML before they'll work. If you want to create your own style-sheets, FrontPage includes a style-sheet editor (which is really Notepad in disguise!).

You can also add a range of active



elements to a page, either your own Java and ActiveX components or using FrontPage's own features. As well as the Web-bots used by previous versions, FrontPage 98 includes a range of Java applets, among them hover buttons, which change colour when a mouse passes over them. If you're using VBScript or JavaScript, the script wizard has been updated to enable use of server side scripts, so you don't need the complex Visual InterDev to develop active server pages.

You can download a copy of FrontPage 98 from Microsoft's Web site or from our Cover CD but beware – the download comes to well over 34Mb. It has its own Web server, although we would recommend sticking with Microsoft's Personal Web Server, which supports FrontPage's server extensions. ●

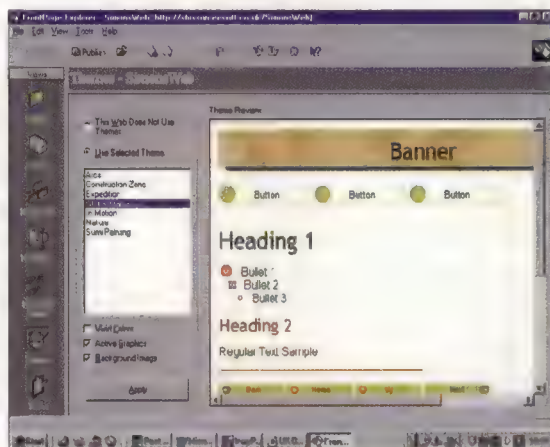
Features	●●●●○
Ease of Use	●●●●○
Value for money	●●●●○
Documentation	●●●●○
Overall	●●●●○

FrontPage 98 makes adding new links to your pages easy. You can use a standard Windows 95 dialog to choose from pages in your site, or click on an icon to add links to the rest of the Web

In brief

With FrontPage 98 you can produce complex, dynamic sites in a simple-to-use WYSIWYG environment, ready for the latest browsers. You'll need a server that supports the FrontPage server extensions to get the best results.

Getting a consistent look and feel for a site can be a problem. FrontPage 98's Themes use icons, style-sheets, banners and page backgrounds from professional designers to give your pages that extra sparkle



Pick of the Web

So which package should you use? All offer a quick and easy way of producing good-looking Web pages, using tables, multimedia and frames that will look good on virtually any Web browser. However, it isn't difficult to find the best package for both Windows and Macintosh users.

Clariss' Home Page is a package that promises much but delivers little. While it offers more in the way of features than Adobe's PageMill, the clumsy user interface makes finding them difficult. Its libraries are impressive, though, and are an effective way of storing Web page elements you're likely to want to use again and again.

If you've got a Macintosh, then Adobe's PageMill is certainly worth a look. While it's just an average Web page editor on Windows machines, the addition of SiteMill

to the Macintosh version gives you effective site management facilities.

An unusual link editor makes using PageMill slightly confusing, and Windows 95 and Windows NT 4.0 users will find the lack of right- mouse button context-sensitive menus a distinct disadvantage.

Microsoft certainly knows a good deal when it sees one, and when it bought Vermeer for its FrontPage Web editing tool, it ended up with what is now the best HTML editor on the market. The latest version (still in beta, but due out soon) is by far and away the best on the market.

If you've ever used one of Microsoft's Office programs, you'll find working with FrontPage 98 very easy, and it offers the experienced Web page designer a wide range of extra features, including tools for

working with Microsoft's latest version of its Internet Explorer Web browser.

As well as an excellent page design tool, FrontPage includes a powerful site management package in the FrontPage Explorer. Unfortunately, it's only a 32-bit Windows package, though a Macintosh version of the earlier FrontPage 1.0 is available and is still well worth using, even after nearly a year on the market.

FrontPage 98 is a clear winner. Its range of features and support for the latest Web technologies stand head and shoulders above Home Page and PageMill, making it a must-have for the Windows Web designer. Mac users will have to make do for now with the combination of Adobe's PageMill and SiteMill, which makes an effective Web site design and management team.

PPIS

Osmosis

Main features: Plug-and-Play Web server for up to 10 workstations, Netscape Communicator 4.0 10-user licence, 10Mb Web space, domain name registration

Recommended hardware: 200MHz MMX, 64Mb RAM, 24x CD-ROM, SMC 10/100Mb network, 2.1Gb hard disk, Acotec SkyRacer ISDN

Software: NT 4.0, Netscape Mail and Proxy server, FrontPage 95, Acotec Fax

Support: 8-hour call-out

Price: £7,500 (1 year), £10,000 (3 years), £370 (per month over 3 years),

Contact: Osmosis

Tel: 0181 568-0077

Web address: www.ppis.net

A Web site in a box? Or is the PPIS really as Plug-and-Play fantastic as Osmosis claims? Marcus Austin finds out

Osmosis, a company better known for providing non-branded solutions to computer distributors than to end-users, has developed what it calls a Plug-and-Play Internet system. The company is adamant that it's a system and not a server, and as the market for this type of product is still very much in its infancy, who are we to argue with Osmosis' definition?

Although the PPIS is not as bad as some of the older Plug-and-Play devices, it's still not a black box solution, either. It's housed in a tower case, comes with a nice LG monitor with built-in speakers, a mouse and a keyboard, and it boots up with Windows NT 4.0. However, once you actually plug the PPIS into your ISDN line and your nearest hub and switch on, things start to get easier.

Once you've booted up the system you're met with a simple dialog box with four child-sized buttons, of which only one is active. Click on the Configure with your system button and then start to fill in the form. You put in your ISDN

number details, your company name and contact details, then choose a domain name for your Web site, and a few alternatives just in case it's already been chosen. Then click on the Apply button. Now all you have to do is wait. You can either choose to wait up to four days while your site name is registered (although it's normally much quicker) or you can start surfing the Net on the server until your registration is approved.

Once you've got the OK back from your ISP, you can start adding users and installing the mail and fax servers for up to ten workstations. Just click on Manage your e-mail and fax servers and input the user's fax number (if you choose the MSN - multiple subscriber numbering - option when you get your ISDN line you get up to ten individual phone numbers), as well as their e-mail address, user name and even their password.

When that's completed you can start to add the PPIS client software to your workstations. The client software we looked at was still in a beta state, which showed in its speed. The four-disk solution (there's a CD coming on final release) loads the client software front-end and sets up the system's IP address.

On reboot you now get a PPIS client dialog box, from which you can load applications (currently just a full version of Netscape 4.0 and you're limited to Windows 95-based systems), change the user details and check that the client's connecting to the server correctly.

Now it's time for the fun bit - designing the Web site. As with

*Serves you Sir.
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for up to ten people*



everything else there's a single button on the server system to do just that. Press it and you're into a PPIS Wizard-driven copy of Microsoft's FrontPage 97. From here, you can either carry on clicking while the PPIS software produces a basic functional site, based on all the details you typed in on the setup screen, or you can do it your own way. The server comes with an allocation of 10Mb of Web space, which can be expanded if you wish.

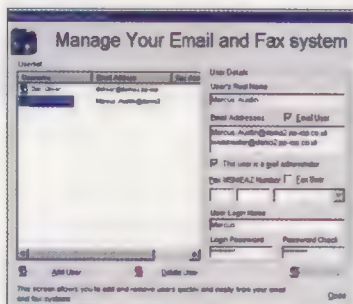
Once you're happy with the Web site, all that remains to do is to launch it on to the Net and, yes you guessed it, that's the last of the four buttons on the opening screen.

A high price to pay?

As a Plug-and-Play Web site solution PPIS is certainly easy to use, but at £7,500 and just ten workstations, the price is high. However, if you go for the more realistic three year option the cost is much more acceptable - especially if you choose the £370 per month lease plan.

Although you can add extra users for an additional fee, and the internal hardware specification of the box certainly gives you ample room for adding up to at least 50 to 90 more users, we can't help feeling that a single Web server standalone solution would have been a much better bet. ●

*You can create
new users and
e-mail names
from the mail
and fax
manager*



Features	●●●●○
Ease of Use	●●●●○
Value for money	●●●●○
Documentation	●●●●●
Overall	●●●●○

JBuilder

Borland

Main features: GUI-based Java rapid application development tool

Recommended hardware: Intel Pentium 90MHz or higher, 32Mb RAM, 50Mb minimum disk space for compact install, CD-ROM drive, SVGA (800 x 600)

Minimum OS: Windows 95 or NT 4.0

Price: £100 (Standard, inc VAT), £468.83 (Professional, inc VAT)

Contact: Borland International

Tel: (01734) 320022 e-mail contact: order@borlandinfo.co.uk

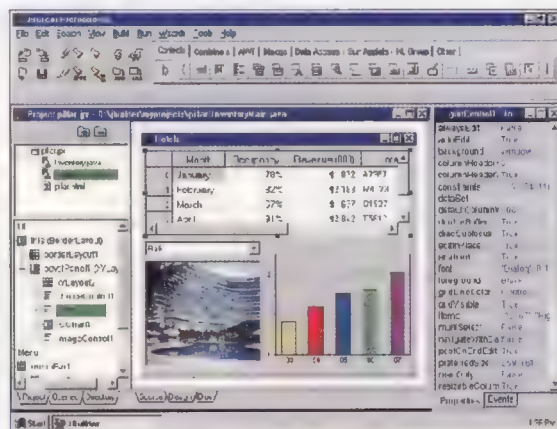
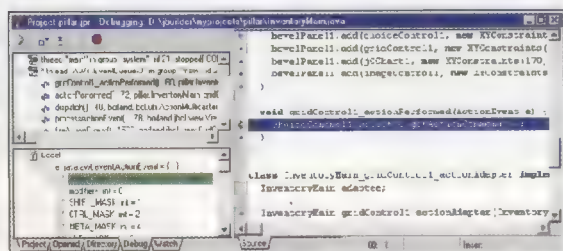
Borland's *JBuilder* has been hailed as the most promising new programming tool on the market. **Karl Dallas** agrees

The experience Borland has gained in creating easy-to-use yet powerful GUI-based programming tools – notably with its superb *Delphi* implementation of Pascal – has been brought to bear upon Java, and the result is the best all-round tool on the market. Though there are at least half-a-dozen already existing alternatives, the company has profited from learning from the failings of these predecessors, and also from the work it has been doing with *Oracle*, which uses Borland's *JBuilder* for all its internal Java development.

JBuilder, again building on Borland's experience with *Delphi*, is available in three versions: Standard, Professional, and the soon-to-be released Client-server.

The Standard edition is a great introduction for anyone new to Java programming, since it includes a step-by-step tutorial, Teach Yourself *JBuilder* in 14 Days, with sample applications and source code. The system is built around an integrated application editor, browser, debugger, and compiler, with integrated HTML viewer, *Java BeansExpress*, drag-and-drop database components and tools, more than 100 JBCL JavaBeans, charting, numerous Wizards,

The easy-to-use interface carries through the software even down to the compiler and debugger level



JBuilder makes Java development a matter of plug-and-play

command-line tools, Local InterBase, and a Java Generic Library of optimised data structures.

In addition, the Professional edition includes a fast Java compiler with SmartChecker, complete JDBC database connectivity, DataExpress components for drag-and-drop database applications, live graphs and charting, full SQL92 query syntax support, command line fast compiler, Grep, Make, Touch, JDK tools, a multilingual online Shopping sample application using JBCL JavaBeans, and printed documentation.

Neither of these versions is really suitable for team work, since there is no built-in version control, but the forthcoming client-server edition will include the Intersolv PVCS Version Manager.

Other important enhancements will include integrated multi-tier RMI (Remote Method Invocation) for distributed computing, CORBA (Common Object Request Broker Architecture) and IIOP (Internet Inter-ORB Protocol) development tools, procedure DataSets to access and use data from stored procedures, *SQLBuilder* to create and edit SQL queries visually, *SQLMonitor* to test, debug, and tune SQL applications, *SQLExplorer* for visual database schema and content management, and a single server licence for DataGateway for Java, including high-performance native drivers for *Oracle*, *DB2*, *SyBase*, *MS SQL Server*, *Informix*, *InterBase*, *MS Access*, *FoxPro*, *Paradox*, and *dBase*.

JBuilder uses an accessible graphical interface, the Visual RAD (Rapid Application Development) Workbench, but it is easy to switch to a source-code mode if you're confident about getting your hands

dirty. Changes in either mode are implemented in the other, with no real hesitation, so if you change the underlying code, those changes will be reflected in GUI mode. This is important, since it is not unknown with other tools for discrepancies to appear between the source code and the GUI representation.

In many ways *JBuilder* incorporates features of earlier programming tools – its integration of Web browser functions (take a bow, Sun's *Java Workshop*), multiple tabbed views like Microsoft's Visual J++, and on-the-fly parsing of source code like Visual Café.

An innovative and welcome addition to *JBuilder* is the way it implements *JavaBeans* with its dedicated *BeansExpress* tool. Possibly because Borland worked with Sun to finish the *Java 1.1* foundations, you are given everything you need to make life easier.

As a beginner's tool, *JBuilder* is superb, but many developers might prefer to graduate to a more enterprise-based product (such as *SyBase PowerJ* which incorporates valuable middleware features, and twice as many *JavaBeans*) once they are happy with the differences between Java, say, and C. Borland has its own middleware product, *DataGateway* for Java, but this is a separate application. It will be interesting to see how the client-server edition of *JBuilder* answers enterprise needs. ●

Features

Ease of Use

Value for money

Documentation

Overall

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The Inty

Vision Interactive

Main features: plug and play Internet connection, with 3200 users for email, up to 65K workstations, free UK domain name, 5Mb Web Space.

Recommended hardware: Pentium 166Mhz, 16Mb RAM, 1.6GB IDE, ISDN TA

Software: BSD 4.4. Unix

Warranty: lifetime warranty / free hardware swap out / free telephone support.

Price: £199 a month for three years (renegotiated after then)

Contact: Vision Interactive

Tel: 0117 973 0597 Web address: www.inty.co.uk

For simplicity and ease of use, look no further than the latest Plug-and-Play server from Vision Interactive, says **Marcus Austin**

The Inty is a small, very neat solution to a very large problem; namely, how to get your whole company on to the Net in the shortest time possible, with as few problems as possible. The Inty succeeds in doing both and leaves room for future Internet expansion.

The Inty is effectively a total black box solution – or it would be if Vision Interactive had found an internal ISDN to go with the system. The very small box – it's smaller than the hub we plugged it into – takes a matter of minutes to set up: just plug one end into the network and the other into an ISDN connector, then switch on – it's as simple as that; there's no keyboard, no monitor and no mouse, and there's no dull manual.

All you have to do then is set up each system connected to the Inty with TCP/IP protocol, give it an IP address, reboot and click on your Web browser. Your PC or Mac will now be able to surf the Web and send and receive e-mail. Or it will do when you set up a user name and a few admin options.

In less than 5 minutes you can be on the Web and if you're quick enough you could have up to 254 other computers hooked up and surfing with e-mail addresses by the end of the day.

Administration is simple: launch the Web browser at <http://inty>, enter the user and password details, then

browse to what you want. All system modifications and user additions are then done in a Wizard-type screen within the browser of your choice.

To add users is simple: click on 'Add user' then follow the on-screen instructions. Options enables you to define the user's e-mail address, and add simple aliases, set Internet privileges, and set passwords. Internet access is determined from one of three Internet plans: Full external Web access, Access denied gam to 5pm, or Access denied at all times. Which one you choose depends on how much you can trust the employee, although if the person really wanted to get around the system there are some loopholes. You can FTP from a DOS session, and for some reason – best known to IE4 – it was still possible to access all the news channels on the PC desktop, even when the browser denied any Internet access.

Other Admin. options include setting up the company's mail, some system parameters, modifying the ISDN connection settings, and changing the IP address. Mail policies are High, Normal, Medium and Low frequency. High is every hour at peak times, two at off-peak and four at weekends, and low is three, eight and twelve respectively.

The great beauty of the system is that as a network manager looking after the system all you need to know is how to plug it in, switch it on and set up the user's e-mail and privileges. There's no need to back anything up, load new software or administer a complicated firewall. The firewall and software updates are all handled at Vision Interactive, and should the box ever go down then Vision will replace it for free.

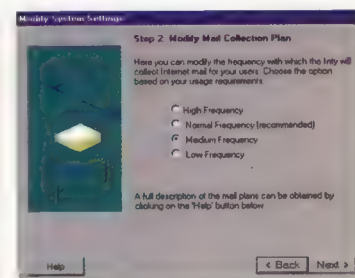
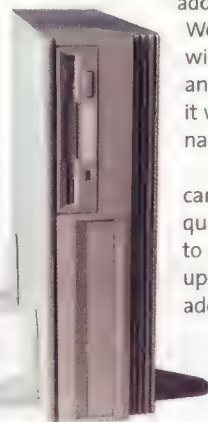
Other neat features include built-in LDAP protocol support, so anyone can access all the other user's e-mail names from their Windows address books. You also have your own domain name to use.

For a straight connection to the Internet there's very little that will beat the simplicity and ease of use of the Inty. At present there are very few limitations to the system, and most of the current limitations will be features by the time you read this article. The Inty will have extensions for the administrator to update a

Get over 65,000 users online in just one move!



Whichever way you view it, the Inty is simply the best



The Inty uses simple browser-based setup wizards

local Intranet site complete with MS FrontPage 97 extensions and create a public Web site from any workstation on the system.

Realistically, you're also going to be struggling if you try and run 255 users on a single ISDN line. However, if you want a bigger solution then Vision Interactive will provide extra services, like domain hosting and a leased line based system. ●

Performance	●●●●●
Features	●●●●●
Ease of use	●●●●●
Value for money	●●●●●
Overall	●●●●●

Internet Info Server 4.0 Beta 2

Microsoft

Main features: HTTP 1.1 Web server, NNTP news server, SMTP mail server, FTP server, ASP server scripting, transaction processing, integrated management console, log file analysis software

Recommended hardware: P90, 32-64Mb RAM, 200Mb disk space

Minimum OS: NT Server 4.0 plus Service Pack 3

Price: Free

Contact: Microsoft Ltd

Tel: 0345 002000

Web address: <http://www.eu.microsoft.com/iis>

If you're looking for an all-in-one ISP solution, *IIS 4.0* goes a long way to achieving this.

Simon Bisson investigates...

If an operating system is to be successful in today's wired world, it needs to offer Internet services, and Microsoft's Windows NT is no exception. *Internet Information Server (IIS)* is a fast route to running a Web server, especially as it's bundled with NT Server 4.0. Code-named K2, version 4.0 is now in its second public beta.

As well as a rewritten HTTP 1.1 Web server and the latest release of Microsoft's *Transaction Server*, the 105Mb full install of *IIS 4.0* offers an indexing tool with improved search facilities, an FTP server, a news server which can be linked to Microsoft Exchange, and an SMTP mail server. There's even an industry-standard RADIUS server. *IIS 4.0* is a complete ISP (Internet service provider) in a box.

IIS 4.0 is easy to set up and, once installed, you control it from the new Management Console. This integrates *IIS* and *Transaction Server* into a single environment based on *Explorer*. From here you can add new directories and

control all aspects of your Web server, from security to PICS (Platform for Internet Content Selection) site ratings, and monitor the behaviour of transactions with databases and back-end applications.

Fine-tuning

The Web server is where most of the improvements in *IIS 4.0* are concentrated. Its performance can be tuned for an expected number of hits, and you can throttle the amount of bandwidth used, which is ideal if you're running a server farm over a leased line and want to maximise performance.

As *IIS 4.0* supports the new HTTP 1.1 standard, the latest browsers will achieve better performance, especially as HTTP 1.1 offers pipelined connections. The biggest problem with previous versions of *IIS* was configuration. A simple operation on a UNIX Web server became an exploration of NT's Registry. *IIS 4.0's* property dialog box removes that difficulty, with quick access to MIME types, custom HTTP headers and error messages.

If you've been developing Active Server Page applications with embedded scripts and server objects in your Web pages, you'll find *IIS 4.0's* new server object model a big improvement. Microsoft has now added a file system object and a mail object, which enables your ASP applications to send and read e-mail.

Integrating the *Transaction Server* into *IIS* is one of the most important decisions Microsoft has made. Transactional systems enable organisations to develop large stable applications that work across a wide range of platforms, which can cope with failures without losing data. *IIS*

is now an object-orientated transactional Web server suitable for heavy-duty electronic commerce.

IIS 4.0 includes *Site Server Express*, which comprises a range of useful tools that help you maintain and analyse Web sites. You can produce a map of each site you host, as well as analyse log files. An HTML page gives you a quick overview of the server's statistics, and a full report can be produced in several formats, including *Word* and *Excel*.

You can download the latest beta from Microsoft's site or order a free CD-ROM. If you plan to develop applications for *IIS 4.0*, then the CD-ROM is your best option – as well as the NT 4.0 Service Pack 3.0, you get a 120-day version of the *SQL Server 6.5* database. You'll also find *Personal Web Server 4.0 for Windows 95*. As it's a beta, *IIS 4.0's* installer doesn't upgrade previous installations, so you should uninstall previous versions before installing *Beta 2*.

IIS 4.0 Beta 2 is a glimpse into a very interesting future, one where the Web server is the key to a business's information services. With an integral transaction processor, *IIS 4.0* will become the centre of Microsoft's Internet offerings.

The verdict

Internet Information Server 4.0 is a complete ISP in a box. A server of this quality is worth snapping up, and the news and mail servers make it a necessity for the NT Webmaster. ●

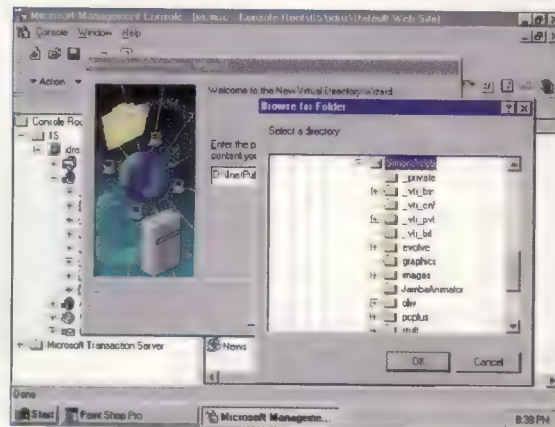
Features

Ease of Use ●●●●○

Value for money ●●●●●

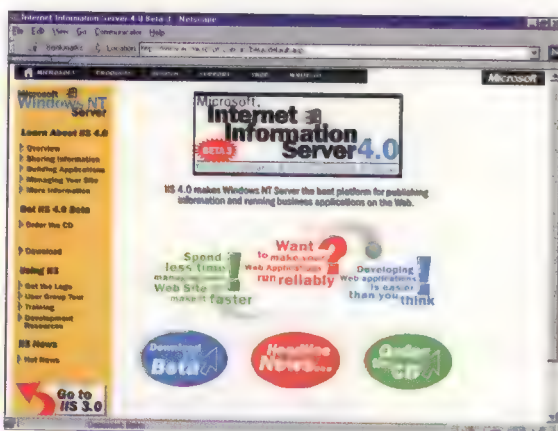
Documentation ●●●●○

Overall ●●●●○



With *Internet Information Server 4.0's* Integrated Management Console, you can add new Web sites to a Web server with just a click of a button

An Internet server, and all completely free, from Microsoft's Web site



3D Internet Designer

Data Becker Software

Main features: VRML scene designer, flexible object editor, object and texture library, multiple camera editor and views

Recommended hardware: Pentium 75MHz, 16Mb RAM

Minimum OS: Windows 95

Price: £39.95 (inc VAT)

Contact: Data Becker Tel: 01420 22707 Web: www.data-becker.co.uk/

There's more than one way to move around a Web site and VRML (Virtual Reality Modelling Language) offers visitors a chance to explore your site in an interactive manner within a virtual 3D world. VRML was released just over two years ago, and since then there has been a variety of editing packages released for creating 3D worlds for the Web. The majority of these, however, are over-priced and plagued with over-functionality, that is, until now. Data Becker's *3D Internet Designer* offers a respectable features list for a fair price.

3D Internet Designer combines an object editor for creating and tweaking 3D models, a scene editor for placing objects and cameras in an environment, and a generous library of ready-made objects and textures on a CD-ROM. Once installed, within 10 minutes of working your way around the program you'll be exporting VRML. To get to grips with all the features, though, takes a good deal longer, and experience with any kind of 3D package would be an advantage.

You can create your own objects using 12 different types of primitive shapes and edit each point of the object by hand. Colour and textures can be added along with optional attributes to make objects rotate within the scene or become 'clickable', taking visitors to another VRML world or Web page.

We would only quibble with the lack of DXF file importing and solid 3D editing view; you have to make do with wireframe instead. The manual may lack enough

step-by-step tutorials but it adequately covers the basics and controls.

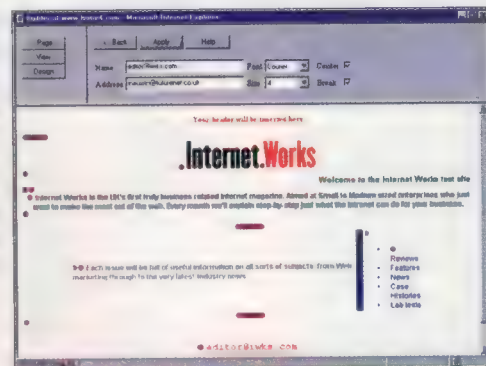
3D Internet Designer is a good program that gives you decent results for a sensible price. Recommended. ●

Features	●●●●○
Ease of use	●●●●○
Value for money	●●●●●
Documentation	●●●○●
Overall	●●●●●

VRML worlds can be previewed in a VRML compatible Web browser



Home4, the radical new product from Xpressive, enables you to design and maintain a Web site, from anywhere in the world



Home4

Xpressive Ltd

Main features: Web site host and development platform

Recommended hardware/software: Will work on anything that runs IE 3.0

Price: £60-£150 (inc VAT) per quarter for site containing 25-100 Web pages

Contact: Xpressive Ltd Tel: 0181 355 0589 Web: www.home4.com/

Rather than going the established route of providing Web space, some tools for building your site and minimal instructions for getting your site on to the Net, Xpressive has produced a tool that enables you to create and maintain your Web site from any machine anywhere in the world, without having to learn HTML (to prove it, follow the daily report from this year's Comdex show held in Las Vegas, which I'll be updating from the convention centre).

All you need is your company name, a password, something that runs a copy of *Internet Explorer 3.0*, and £60-£150 per quarter, depending on whether you want 25 or 100 pages on your Web site.

To update or create your site, simply go to the Home4 Web site and type in your company name and password.

Create and maintain your Web site from anywhere in the world. Marcus Austin explores Home4

This will take you to your section of the site www.home4.com/yourcompany. The interface (built-in JavaScript) lets you write text, choose fonts styles, embolden, add forms and tables by just clicking on a menu. Once you're happy with your site, to make it visible to the outside world, simply click on Save, then Publish, and that's it. It's simple to produce a straightforward-looking site using Home4; if you

want to do anything fancy, then go for a proper domain name and a standard ISP setup.

The only downside is that Home4 is text only; if you want images, you have to store them on an alternative site, which almost defeats the purpose. If you want to get a toe-hold on the Net and don't want to commit yourself

to a fully-fledged Web site, then we'd recommend this. You can try out the system on your own free single page; just go to the Home4 page and select the Design My Free Web Page icon. ●

Features	●●●●○
Ease of use	●●●●○
Value for money	●●●●●
Documentation	●●●○●
Overall	●●●●●

COMING SOON IN

TOTAL

FILM

ALIEN 4

★ Sigourney Weaver ★ Winona Ryder

DANGER!
HOUSEHOLD ITEMS

Flick through the
catalogue of carnage

PLUS!

CRIME! Copland **SEX!** One-Night Stand
BONDAGE! Tomorrow Never Dies **ALL THREE!** Spice:The Movie

SAS superstar **ANDY MCNAB** on movie gunfights ☺ Make your own straight-to-video turkey

☺ And much, much more about **STARSHIP TROOPERS**

TOTAL FILM ISSUE 12 ON SALE 28 NOVEMBER

Kodak DC210 Zoom

Kodak, US

Main features: 1,152 x 864 pixel resolution (640 x 480 standard), zoom lens, optical viewfinder (45mm LCD, 24-bit colour), 4Mb storage
Recommended hardware: 486/66MHz processor (Pentium recommended), 8Mb RAM (16Mb recommended), serial port and CD-ROM drive
Minimum OS: Windows 95
Warranty: One year back to base **Price:** £749 (inc VAT)
Contact: Eastman Kodak Company
Tel: 018954 57079 **Web:** www.kodak.com

The DC210 is sleek and stylish but what's under the bonnet?



Is the DC210 the cutting edge in digital cameras? Dan Oliver puts it to the test

It looks like the Porche Boxster of digital cameras, provides 1,152 x 864 pixel images and has the ability to store 60 images on its 4Mb memory card; the Kodak DC210 Zoom Camera sounds like the perfect tool for any professional Webmaster.

The DC210 Zoom is a lot cheaper than other digital cameras in its class but still manages to include all the expected features, including a 2x zoom lens with a 29mm to 58mm focal length, an automatic flash and a 45mm LCD full-colour preview/review display, which you also use to access the camera's menus.

Thirteen high-quality images or 60 of lower quality can be stored as FlashPix or JPEGs, enabling you to upload pictures on to a Web site directly or import them into a paint/photo package.

A spin dial gives you access to the DC210's different features via the LCD. There are options to view images as thumbnails, delete pictures and change their attributes.

The main glitch with this camera, though – and to be fair most others – is that using the LCD seriously diminishes running time. You need to spend another £47.50 for the Kodak adaptor, which is essential for uploading. Once you have the adaptor, though, uploading images is simple – the DC210's software recognises which port the camera is plugged into and the best uploading speed for your system.

The DC210 Zoom Camera also comes with Kodak's

Acquire software for Windows 95, which is recognised by various TWAIN-compliant programs such as Adobe PhotoDeluxe and PageMill.

A quality camera at a good price, but let down by its gimmicky viewfinder. ●

Features	●●●●○
Ease of use	●●●●●
Value for money	●●●●○
Documentation	●●●●○
Performance	●●●●○
Overall	●●●●○

Despite looking like an extra in Flash Gordon, the Video Blaster WebCam offers a cheap videoconferencing solution



Video Blaster WebCam

Creative Labs

Main features: Max speed of 15 frames per second in 160 x 120 resolution video mode, supports 16 million colours
Recommended hardware: 100MHz Pentium, bi-directional parallel printer port modem or LAN access to the Net (14.4Kbps for voice communication and 28.8Kbps for voice and video), 8Mb RAM
Minimum OS: Windows 95
Warranty: One year **Price:** £149 (inc VAT)
Contact: Creative Labs
Tel: 0118 934 4322 **Web:** www.creativelabs.com

The new WebCam from Creative Labs comes with a suite of impressive programs for video conferencing, capturing and editing graphics, and creating multimedia applications, all for under £150.

The WebPhone is probably the most appealing tool in the WebCam package. It's a software-based telephone, which enables you to conference over a Net connection at 28.8Kbps. It also supports ISDN and intranets, making it an interesting and affordable option for small- to medium-sized businesses.

Setting up the camera is easy – it plugs directly into the printer port, and at 160 x 120 pixels it supports 15 frames per second and up to 16.7 million colours.

Big Brother is watching you in the guise of Creative's new WebCam. Dan Oliver tries to run for cover

WebCam also supports the Microsoft Video for Windows standard and is fully compatible with Microsoft NetMeeting/NetShow, Intel's Video Phone and White Pine Software's Enhanced CU-See Me.

If you want to add crisp, quality video footage to your Web site, then this is not the camera for you. The WebCam is

more a tool for Internet hobbyists who may wish to update their home page, and this is something it does well providing you have FTP access to your Web site.

Other software includes Howdy!, for creating

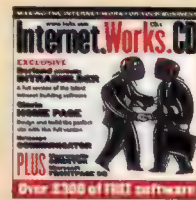
'multimedia postcards', and MediaStudio VE, a digital video production program.

A nifty, reasonably priced camera that comes with some excellent software for video conferencing or adding video to your home page. ●

Features	●●●●○
Ease of use	●●●●○
Value for money	●●●●○
Documentation	●●●●○
Performance	●●●●○
Overall	●●●●○

MAKEOVER

Designing Web sites is easy when you have a wealth of marketing, design and testing expertise to hand. We give three companies the benefit of our experts' knowledge. You can also view all these sites 'before and after' on our cover CD.



Getting your company on the Internet involves more than just designing beautiful pages – your whole marketing strategy has to be rethought and optimised. *Gillian Roach* finds three deserving causes and adds some powder and paint

Our marketing and testing experts

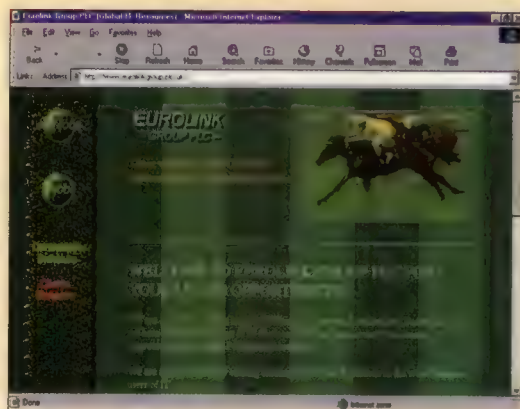
Clarity advises businesses on how to use new media to gain competitive advantage and commercial success. Clarity's clients include Fujitsu, NatWest, Sun Microsystems, Waterstone's and Swatch Telecom. For more information, please contact: Martin Chilcott, Chairman on 0171 397 9200 or e-mail him at martin@marketing.co.uk

TesCom is an independent supplier of software and application testing services. TesCom has carried out testing projects for customers including Microsoft MSN, BBC, Polygram, AOL and Unilever.

Services offered by the division include compatibility and functionality testing of Internet, intranet and CD-ROM applications. For more information, tel: 0171 250 4705 or visit its site at: <http://www.tescom-intl.com/>

TesCom tested all the finished Web sites within this environment: Pentium PC, NT4, 32Mb RAM, IE 3.02, 800 x 600 resolution monitor, 65K colours, 28.8Kbps modem.

Makeover 1: Eurolink



Eurolink, founded in 1983, is an IT recruitment consultancy firm and has succeeded in placing IT professionals in positions in Europe, Australia and the US.

Fundamental to the success of Eurolink's recruitment service is the ability to inform people of the jobs on offer, and so the Internet seemed a natural place to advertise positions and find potential candidates. Eurolink set up its first Web site

three years ago in the hope that it would generate more business. The site brought in around 30 applications a month but, as it hasn't been redesigned since the original site was posted in 1994, is in dire need of a face-lift.

Eurolink wanted a more dynamic, eye-catching site, which is both easy to navigate and well structured, as its database of jobs is increasing day by day. However, the directors were not willing to part with their much-loved horse-racing theme, and so a compromise was needed...

Before: Eurolink was keen to maintain the horse-racing theme on its site

Eurolink: design by Webkeepers

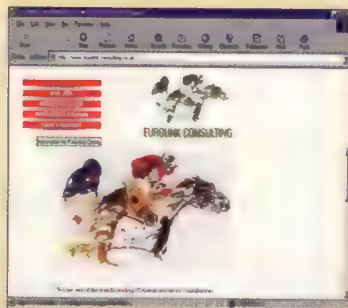
The new site has benefited from a smart-looking menu bar

Navigation is the key to a good Web site, as most Web surfers expect information quickly. However, you can't spoon-feed everyone with the right information all the time, and that's why menus are indispensable – vertical menus, horizontal menus, whichever-way-you-like-it menus, so long as you include one.

The new Eurolink site has benefited from the addition of a smart-looking menu bar. Once you click on a link, the page is loaded into the frame below, leaving the menu intact. This is useful when you click on Eurolink's US sister site. On the old site you were projected on to the US site with no explanation as to what had happened to Eurolink. Now

the US site opens up in the Eurolink window, and it's immediately apparent that the two are linked.

The menu bar also helps keep tabs on where you are, by highlighting

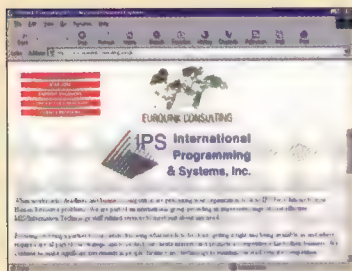


After: the new navigation menu makes flicking through pages a breeze

the link you are on at that time. "We used JavaScript when creating the navigation bar at the top, so that each bar would be highlighted when the pointer was placed over it. Likewise, it would stay highlighted while you were viewing that particular page," said Alun Webber, managing director of Webkeepers.

The trouble with frames, though, is they can act differently when viewed in different browsers. To solve this, Webkeepers created a non-framed design for those using Netscape 1.0 and Internet Explorer 2.0.

Like frames, backgrounds can be complicated, too. On the original site, Eurolink used a dark green background with a hedge-effect



Eurolink's US sister site is loaded into the lower frame

running down the left-hand side. However, on larger monitors this background was not wide enough to fill the screen, and so the hedge-effect was repeated on both sides. This, coupled with the fact that the text automatically stretched itself to fit the screen, meant that, on some screens, the text was impossible to read. This is remedied by making the background twice as big as it needs to be and giving a definite width to the table containing the text. However, Webkeepers decided to lose the background completely.

The new white background gives the site a more serious, business-like air, while the watercolour, which replaces the horse-racing video clip, adds a splash of colour. However, adding colour to the site was not the only reason for changing the logo.

"We took the colours from the jockey's shirts in the watercolour and used them elsewhere on the page," said Webber. "The red on the navigation bars is the same red as the jockey's shirt and likewise with the blue used for the links. This helps to hold the site together and gives it a more 'corporate' look."

To ensure the colours matched exactly, Webkeepers used Netscape colours – a set of RGB colours used for Web design. Each colour is made up of red, green and blue, which can

Webkeepers Ltd

Webkeepers Limited is a Web publishing, design and maintenance company that provides a full range of services to clients who wish to establish or refine a Web presence. Webkeepers specialises in database and on-line shopping facilities.

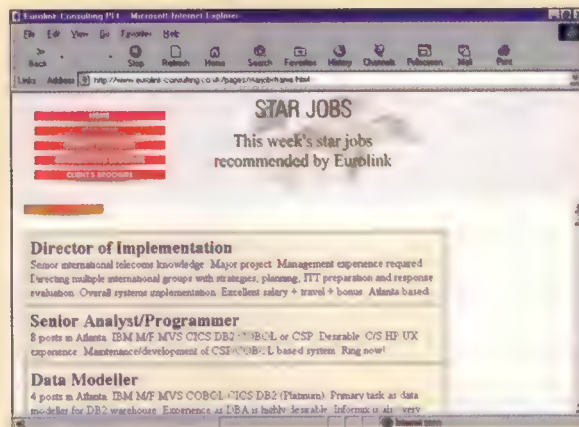
You can contact the company on 0800 279 4016, at www.webkeepers.co.uk or e-mail sales@webkeepers.co.uk

only be increased by 20 per cent at a time. This ensures that different browsers display the same colour.

One of the most important changes Webkeepers made to the Eurolink site was to the domain name. If you don't know the URL for a site but you know the company name, you'll probably try to guess the address. There are three domain names that you would try: **.com**, **.co.uk**, or **.net**; you're unlikely to try **.plc**. Changing the name to **eurolink-consulting.co.uk** will undoubtedly improve the hit count. The new site name was registered with 16 of the largest search engines – eight in the UK and eight in the US – and sent, using a submission service, to a hundred or so other search engines.

In two to four weeks the search engines will update their databases and Webkeepers will redirect the traffic from the old site to the new. In theory, Eurolink won't lose any traffic because all options are covered.

The improved Eurolink site has a clear corporate image and is easy to navigate. The simple design is worthy of any business serious about its image on the Web.



The colours used in the logo were duplicated on the navigation bar to give the site a more corporate feel

Test results from TesCom

- Include search facilities on the site
- Top frame could do with being more compact – it takes up too much room
- The implementation of frames causes problems when viewed in different browsers
- When using IE3, it is not possible to get back to the home page from the US site, without using the Reload button
- No meta information found in the tags for search engines

Eurolink: marketing by Clarity

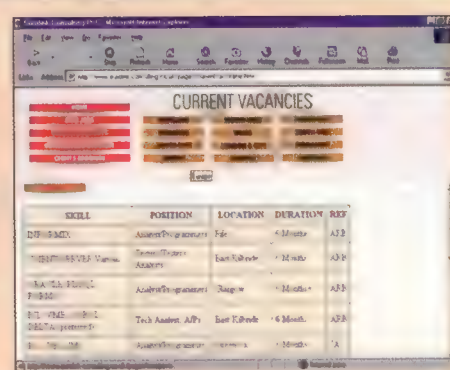
IT recruitment and the Internet were made for one another. Those surfing the Web are exactly the kind of people who may be looking for a job in IT. However, IT professionals are more likely to know a good Web site from a bad one, and this is one reason why Eurolink needs to take a good look at its site.

The message Eurolink should be portraying more clearly is that it understands the IT business and can reassure its customers that it can find the right job for them. It can do this by making its site look more serious and less like a bookmaker's site. However, this doesn't mean that Eurolink has to lose its horse-racing theme; it's a little hackneyed but it can work if used in a subtle way.

Although there is plenty of information on offer, the customer has to call the Eurolink office to find out the details of a job. Ideally the viewer should be able to click on the job advert and be taken to a mini-site where he/she can get immediate information on the position and the company offering that job.

It would save Eurolink and the viewer time and money if there was a 'quick' CV form to fill in for each job. That way Eurolink could vet each applicant before that person spends time typing out and sending a full CV.

Another time-saving tip is to have separate



Each geographic category should be split into graduate, managerial and technical sub-sections

URLs for different types of job. At the moment the jobs are stored by geographic location, but maybe those categories should be split again into graduate, managerial and professional. Each should have its own URL, so it can be accessed without going through the main Eurolink site.

The last piece of advice from our marketing guru is something that is relevant to all companies who own a Web site: update, update and update some more. New information is what will keep 'em coming.

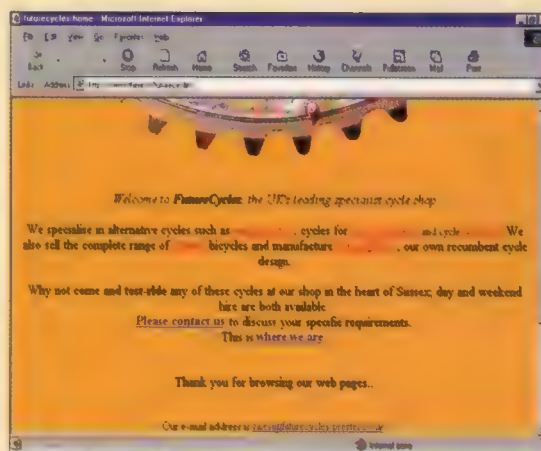
Makeover 2: FutureCycles

Now
there's an
icon for
each link,
making it
much
easier to
navigate

FutureCycles is a three-man team that builds recumbent cycles in a cowshed in East Sussex. The team first introduced its company to the Web in 1994, when it set up a site using free space, which is specifically designed for non-commercial sites.

Although it couldn't sell any of its products directly from the site, FutureCycles advertised its products and provided e-mail and telephone contact details, which proved to be successful. Through its Web site, FutureCycles has sold bikes to people from the US and Indonesia, who had first originally of the company via the Web.

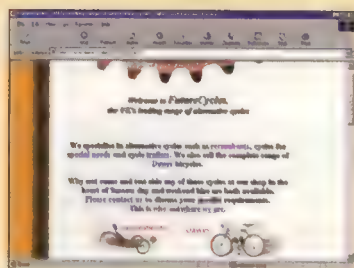
However, one problem the team came across when the first site went live, was the amount of e-mail and telephone enquiries it received. Customers wanted to know more than just the price of the product –



*Before:
FutureCycles
wanted a site that
was packed full of
information to cut
down on the
amount of e-mails
being sent to its
office*

they wanted to know how to ride the cycles, how good they were going up hills and where to meet other recumbent riders. Clearly it was time to revamp the site or drown under a sea of e-mail. We gave FutureCycles a helping hand.

FutureCycles: design by e-MR



*After: the new site is easy to navigate
because of the use of picture links*

The first thing you notice about FutureCycles' new home page is that it's now geared towards people who don't necessarily know what a recumbent is but who want to learn. The old site asked you to click on the word 'recumbent' without showing you what one looked like; now there's an icon for each link, making it much easier for beginners to navigate.

e-MR created a community atmosphere within the site by

adding a link to a visitor's book and a newsletter about recumbent cycles. Viewers can now sign the book and find out more information about group holidays and how to contact other riders from the front page.

"We tried to make the site more interactive by adding links to the visitor's book and the newsletter. Not only will this help FutureCycles learn more about its customers, but it will make the site more interesting," said

FutureCycles: marketing by Clarity

The Net represents a fantastic opportunity for niche retailers such as FutureCycles to branch out into areas that were closed to it before. FutureCycles is selling a specialist product but does not have a comprehensive retail presence, so the Web, and the business it can bring, is extremely important for the company. However, there are a couple of ways in which FutureCycles can improve its Web presence.

The designs of the cycles form much of the attraction for customers. They are so carefully crafted and ergonomically designed that there is little doubt that the individualism of the product is its selling point. It's a shame, therefore, that the photographs on the site are so small that you can't see the product properly until you click on each product, where even then you are presented with a photograph taken

from a distance. So they should take a look at some professional photography.

The site would also benefit from a sense of movement. Use Java to create moving applets that show people actually riding the cycles, and this may help to eliminate some of the e-mails about how the cycles work.

Add value to the site by including information on cycling holidays for people with recumbents and extra pages dealing with the aftercare of the cycles, such as maintenance, cleaning and upgrading.

An additional page could consist of anecdotes by people who own recumbents, detailing where they went on their cycles and how successful their trips were.

Advertising special offers is always important on a site selling products. However, in FutureCycles' case, these offers should be placed on the same page as the

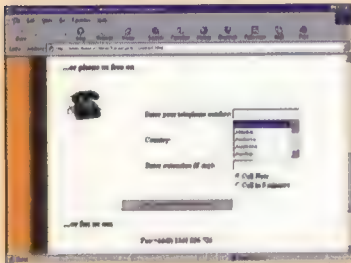


*Professional photography is essential to
illustrate the individuality of the product*

order form. As the recumbents are expensive, you're unlikely to convince someone to buy one, who isn't going to anyway. However, you can probably convince someone to buy now, instead of next week, if you dangle a fat enough carrot.

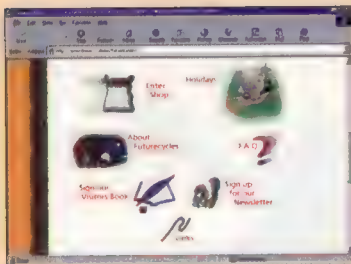
Mike Grenville, managing director of e-MR. "This means that people won't just visit the site because they want to buy a cycle; they will visit for extra information, too."

The FAQ section should also alleviate the daily e-mail enquiries FutureCycles were getting. e-MR has made it easier for customers to get in contact with FutureCycles by including a RealCall (www.realcall.com) freephone facility. Once a customer clicks on the button, an e-mail is sent to FutureCycles telling it to call a customer back once the customer is offline. All of this is automatic once the button is pressed.



The RealCall button means that customers don't have to worry about being charged for a call

The new FAQ section will alleviate some of the e-mail enquiries



It's especially useful for customers dialling up from home who are unlikely to have a separate connection for the Net, and so won't be able to use the phone at the same time.

Being able to update the site quickly and easily is as important to FutureCycles as it is to Eurolink, because the site also includes second-hand bikes for sale. If a bike is sold, then it needs to be taken off the site immediately. FutureCycles can now do this easily by using e-shop, an application designed by e-MR to make it simple for the site owner to update his or her own site.

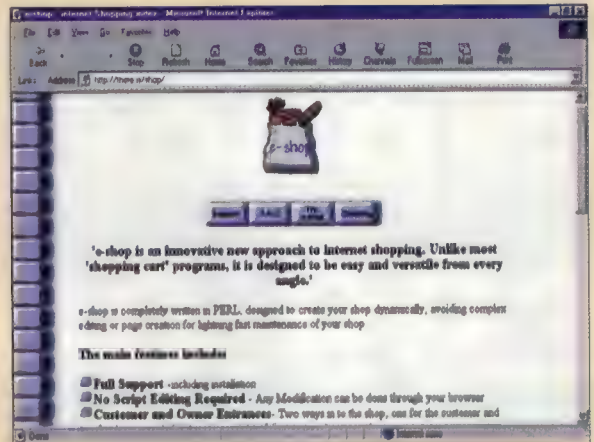
e-shop is written in PERL and can either be hosted as another shop, via e-MR's site, or installed on to the owner's server. Filling in a simple form is all that's needed to delete or add products or update prices. The shop can also be linked directly to Netbanx (www.netbanx.com) for secure credit card transactions.

Not only is the new site simpler to update, it's also easier to find, via a search engine. e-MR has added the word 'recumbent' to the metatags, which are made up of a keyword or

e-MR

e-MR specialises in product sales over the Internet and will not only design your site for you, but also help to develop your online marketing plan to ensure your site is a success.

You can find out more about e-MR by visiting www.there.is/e-mr or www.there.is/e-shop to find out more about e-MR's site management software.



description that tell the search engine what the site is about.

It's important to cover all search options, as search engines will only list the pages with the most keywords that are relevant to the enquiry. You get high relevancy scores if keywords are found in filenames, <TITLE> tags, <META> tags, <IMAGE> tags and page content.

There's little doubt that the page has been improved. The viewer's eye is now drawn into the page by the photos of the cycles, which go a long way towards explaining what a recumbent is before you access other pages to find out more.

e-MR's e-shop means you can update your own site as and when you need to

Test results from TesCom

- The 'enter shop' link is too near to the 'home' icon. This can be confusing
- There is no easy way to get back to the home page after using the RealCall button
- Include thumbnail pictures for the initial catalogue page
- There needs to be a link to the search page from the home page

Makeover 3: Internet.Works

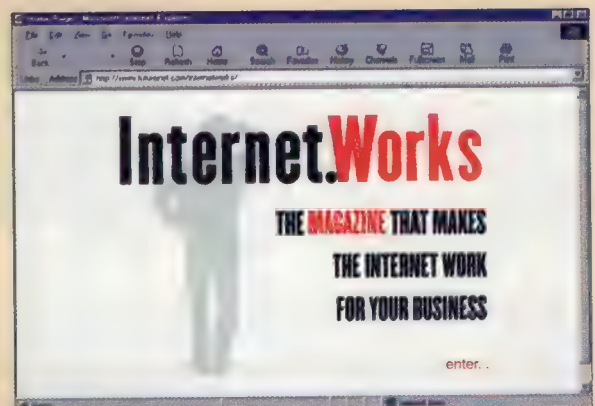
We couldn't let all this marketing and design expertise go to waste; we just had to get in on the act. Our Web site is designed to be a source of information for *Internet.Works* readers. It will contain features, advice and problem-solving sections, as well as a subscription page, so that you can ensure that you get your copy of the magazine before your competitors do.

FutureNet was instructed to design the site with the business professional in mind, therefore

making all the pages short and to the point with bags of useful hints and tips on each page. A features section and a subscriptions page were a must, but apart from that, we gave the designers a free rein.

Although we're happy with our Web site, we thought we'd show you that there are lots of designs that can work for any one company, so we put our site under the knife...

Before: just to show we are open to a little helpful advice, we turned the tables on ourselves



10MB Web Space £99.00

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www.your-company.co.uk £ 66.00
includes naming authority fees

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Internet marketing
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- ★ CD Direct
- ★ InLiners
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T 01703 676764
Email info@alchemy-ims.co.uk
Web <http://www.alchemy-ims.co.uk/>

Lowmans House
80 Portswood Road
Southampton SO17 2FW

Talk to the web wizards

Internet.Works: design by Mediatel

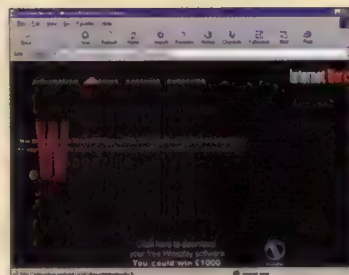
The first thing you notice about the new *Internet.Works* site is that the Java applet on the first page has gone. This is to cut down on the graphics that have to be loaded, making the site easily accessible by as many people as possible.

The main section headings, logo and copy have stayed intact, but the

site itself has taken on a three-frame design. The top frame acts as a navigation bar with the menu and logo always visible. This saves the logo image from being re-loaded each time you go to another page. It also includes JavaScript buttons, which act as navigation aids.

The middle frame is where most of the information is stored and is mainly HTML-based. The lower frame is for advertising. Mediatel has also added a frame, which runs down the left of the 'information' page. This splits the 'editor's message' page in two and has links to the media pack.

The black background on the first page is used to obscure the use of the frames and to provide a contrast to the site's subsequent pages. The text, too, has been cut down a lot because, says Mediatel, most people



After: the black background on the first page is used to obscure the use of frames

Mediatel

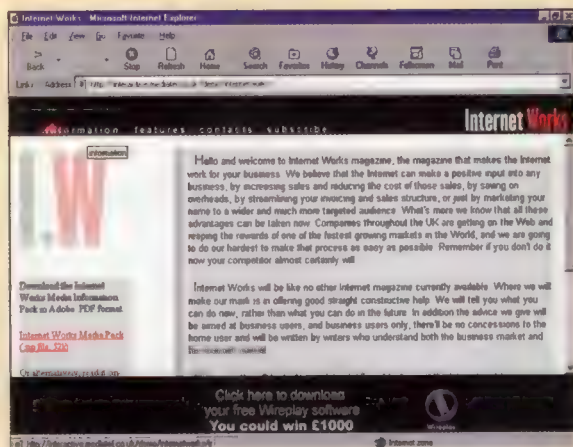
Mediatel hosts, designs and develops Web sites and has created over 30 Web sites for a client base that includes Deutsche Telekom, Marketing and the IPA. The sites Mediatel produce are interactive and are geared to making money on the Net.

For more information visit <http://interactive.mediatel.co.uk>

entering a site they haven't visited before don't stop to read large sections of text – they hop from page to page to see what's on offer.

The following sections are mainly white, but greyscale text has been added to lift the text on the logo. Here, again, the text has been shortened, so the viewer doesn't need to scroll from left to right to read it.

However, the essential layout of the site and the section headers have remained intact because the basic requirement for the site was to mirror certain sections of the magazine, and so the features, subs and editor's pages are all included. ●



The page has been split down the middle to create a navigation frame down the left-hand side

Test results from TesCom

- When viewing with 256-colour resolution, the 'I' and the 'magazine' text is lost from the logo in the middle frame of the home page
- No meta information found in the tags for search engines
- The 'red triangle' in the top frame does not work in IE3
- Could be improved by adding a feedback/letters page for letters direct to the editor

Internet.Works: marketing by Clarity

The first page of *iwks.com* is excellent. It's dynamic, exciting and prepares the reader for a bonanza of information about the Net.

However, viewers who don't have the Shockwave plug-in will have to download it to see the Java applet on the front page. Maybe it would have been a good idea to use a different front page that doesn't require a plug-in. You want people to dive into your Web site almost as soon as the front page downloads, not sit there downloading a plug-in.

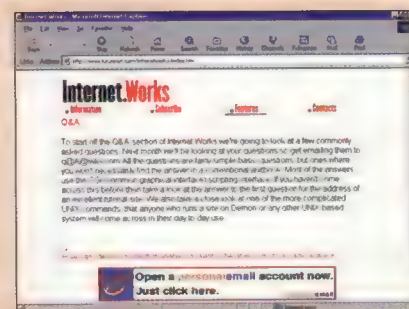
The first page is a message from the editor, which clearly states the aim of the magazine and the readership it is directed at. However, the navigability of the page could be improved by shortening the message so that it fits on to one page,

without the need to scroll, especially as when you scroll down, a link to the subscription page is revealed.

The subscriptions page is well thought out and the details of the offer are correctly loaded, first at the top of the page. Ideally, the offer should have been put on the initial editor's page and on the subs page to give it as much Web space as possible.

Currently, the Q&A section is on the 'future features' page, which is not necessarily the best place for it. Many of the people visiting the site are going to have questions they want answering or will want their Web site problems solved. This is such an important page for the site that it warrants its own page.

Overall, *iwks.com* puts forward an



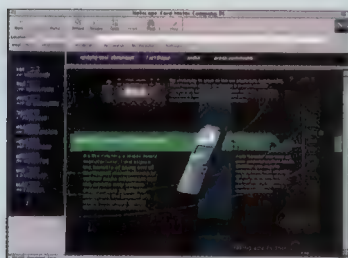
The Q&A section would benefit from having its own page on the site

interesting proposition on its first page, but needs to cram more and more information on to consecutive pages to close the deal.

£5,000

worth of great prizes up for grabs

We have teamed up with Virtual Internet to give you the chance to register your company's Web site with one of the largest domain name registrars in Europe



The ten winners will each receive a free registration of a .com or .co.uk domain name plus twelve months' free use of the Virtual Internet Secure Commerce System, worth £500 each. Ten runners up will win a free domain name registration.

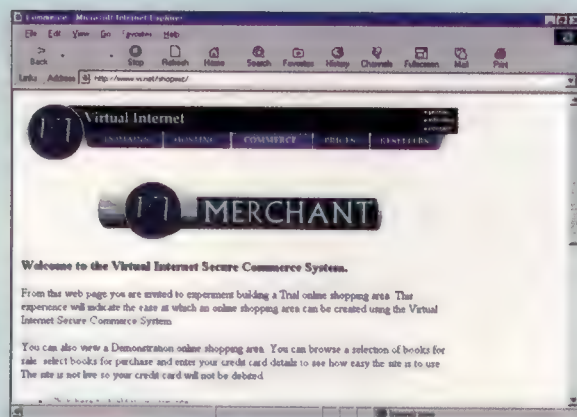
Virtual Internet's Secure Commerce Server enables Webmasters to add E-commerce facilities to their Web site by using an online wizard. No database programming skills are needed as

Virtual Internet will set up your whole shopping system for you. Virtual Internet is a domain name registrar and Web site hosting company, with offices in London, Paris, San Francisco and Johannesburg.

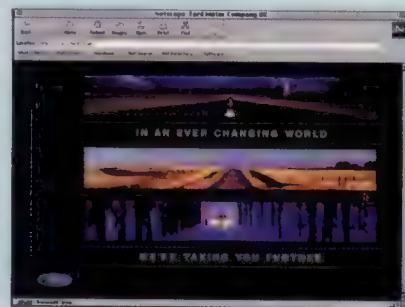
VI also offers a suite of services to assist clients, including Global Name Search, Name Watch, Commerce Systems and Java-based administration systems.

The Rules:

- 1: You must complete the form by 1st January 1998
- 2: Employees of Future Publishing, Virtual Internet or their agents, and their families, may not enter.
- 3: Multiple entries are not allowed.
- 4: The editor's decision is final, no correspondence will be entered into, and there are no cash alternatives. No purchase necessary.



Virtual Internet's clients include Nestle, Warner Bros, CNN and Ford



To enter the competition please fill in the form at:

www.vi.net

or go to the site via www.iwks.com

Cashing in on the Net

Getting your site online is all well and good but the question is how do you make money from it? *Gillian Roach* reviews the latest books telling you how.

Webonomics: Nine Essential Principles for Growing Your Business on the World Wide Web by Evan I Schwartz

Publisher: Penguin

Price: £11.99 ISBN: 0-14-026406-X

If anything can convince you that your business needs to be online, *Webonomics* can. In his book, Evan I Schwartz systematically runs through every excuse you can think of for not launching your company on to the Internet and blasts it into little pieces.

Schwartz not only shows you how to make money from the Web, but teaches you to rethink the whole idea of putting your company online. He kicks off his nine principles for Web success with a lesson in attention grabbing. If you think that a couple of hundred hits a day on your site counter is something to celebrate, then think again. So what, says Schwartz, if your site attracts attention; if it's the digital equivalent of a roadside accident, then passers-by will slow down to have a good gawp, but forget all they've seen as soon as they log off.

He illustrates this well by comparing a site that merely advertises its services, with another that provides company information, but still grabs the surfer's attention using a cunning diversion in the form of an interactive game or chat room. According to Schwartz, quality of time spent on the Web, not quantity, is the secret to making money on the Internet.

Schwartz's advice is to educate yourself on the Web's intricacies before you jump in feet first. He stresses that would-be site designers should concentrate on re-inventing their company's image on the Web and not fall into the trap of regurgitating last month's advert in the local press. The Web is a new medium and should be treated as such.

Despite the slightly condescending tone of the book, *Webonomics* is overflowing with good advice that, once absorbed, will enable you to sit back and reap the rewards of your Web site.

Infopreneurs Online and Global

by H Skip Weitzen and Rick Parkhill

Publisher: John Wiley & Sons

Price: £22.50 ISBN: 0-471-14024-4

The popularity of the Web has spawned all kinds of weird and unpronounceable new words. 'Infopreneurs' is one of them. However, don't let this put you off this book – it's

essential reading if you're thinking of giving up your nine-to-five job to take your chances in the world of online information.

Weitzen and Parkhill guide you through the do's and don'ts of launching an information service online with the aid of witty anecdotes and diversions, which bring the world of information services to life.

The authors tell you how to grow your business idea from the early stages of nursing it through the planning stage to the use of online databases, customising your information for a specific market, and finally launching your business on the Internet.

It's a great step-by-step guide and, if you

Exploiting the Internet

Understanding and Exploiting an Investment in the Internet

by Andrew Frost and Mark Norris

Publisher: John Wiley & Sons

Price: £24.99 ISBN: 0-471-97113-8

The title of this book is a little misleading as most of the book is geared to helping you understand the Internet. This is a beginner's book but it's also for tech-hungry Web-heads who want to know their LANs from their WANs or their IP from their TCP/IP. Technobabble set out in a clear and easy-to-follow fashion is about the best way to describe it.



had any doubts, it will convince you that you can be an infopreneur.

Especially enlightening are the case studies provided by successful infopreneurs already on the Web. These eight 'trailblazers' have dumped the company payroll in favour of the Net and have never looked back.

They are all advocates of the new Information Age and are, of course, oozing with success, but they do have some sound advice to offer once you get past the 'I'm just so successful' stage.

The only downside to this book is that it makes setting up an online information service sound almost too easy. It rattles through the basics and arrives all too quickly at the success stories.

But if you are serious about launching your own online information service, now is the time to do it, and quick and straightforward advice is just what you need.

However, it's not all flow-charts and statistics. *Exploiting the Internet* does get down to what we all want to know about: how to make money. In Chapter four, 'Business Impact', you get advice on how to market your Web site, add advertising, sell products, deliver products and keep tabs on who's buying what and when. Never before has so much power been placed at the feet of businesses, say the authors. They can pin down the type of person who buys from them and a range of facts that, a few years ago, took an age to gather.

Although the book was produced for BT, there's little plugging of its products and services. Instead, a CD-ROM is included that contains information on how to connect to the Internet using BT's online service.

However, even if you can't get the CD-ROM to work, the book gives enough sound technical advice to provide a great guided tour to Internet success. ●

“NETSPEAK”

Don't be phased by Internet jargon any more. Camilla Way and Dan Oliver explain all...

Address

Either the address of a user of a system, as in an e-mail address (required so the message sent can be directed to a particular person), or the address of a site on the Internet.

Anonymous FTP

Allows a user to retrieve files from another site on the Internet without having to establish a userid and password on the system.

Archie

A system for finding publicly available files for FTP (see entry later) over the Internet.

Backbone Net connection

A backbone is a set of paths that local or regional networks connect to for long-distance communication. The connection points are known as network nodes or telecommunication data switching exchanges (DSEs).

Bandwidth

The maximum amount of info passed over a connection in one second. Either Kbs (kilobits per second) or Mbs (megabits per second).

Banner

The graphic that displays the online advertisement.

Baud

The speed of a modem, written as the number of transitions in modem signals per second. Each transition can carry more than one bit of information.

Bits per second

The speed at which bits are transmitted.

Blinking

Using an off-line reader to access an online system.

Bounce

When e-mail is returned.

Bridge

A device that connects two or more physical networks and forwards packets between them.

CGI (Common Gateway Interface)

The CGI is a standard way for Web servers to pass control to an application program and receive data back when it's done. It allows application programs to run on your behalf as part of your Web connection on any kind of operating system.

Click-through

A page hit established by a viewer choosing a visible link (usually referring to a banner advert).

Client

An application that extracts info from a server on your behalf on a user's terminal or computer.

Connect time

The length of time you spend online to the Net.

CPM

Cost per one thousand impressions.

CPS

Characters per second. A measurement of data output speed.

CTR

Click-through rate. The percentage of viewers who click on your banner advertisement.

Data compression

The compression of information to decrease transferred file size. MNP5 and V.42bis are the best known types.

Decryption

Decoding encrypted data to its original form.

Dial up

To connect to another computer by calling it over the telephone network.

Digital Certificate

In the common security standard for online transactions called Secure Electronic Transactions (SET), a Digital Certificate is issued by banks (for example, any Mastercard or Visa issuer) to each patron and each merchant to identify them as a valid transactor.

DNS (Domain Name System)

Domain Name System is a database for translating computer domain names into numeric Internet addresses. Also stands for Domain Name Server. See below.

Domain

Part of the naming hierarchy of the Internet.

Domain name

Precisely locates an organisation or other entity on the Internet, eg www.megastar.co.uk

Domain Name Server

Enables domain names to be resolved into numerical addresses.

Dynamic pages

Dynamic HTML is a collective term for a combination of new Hypertext Markup Language (HTML) tags and options, style sheets and programming, which let you create more interactive and faster downloading pages.

Encryption

A method of coding data to prevent unauthorised access, most commonly used on the Internet to protect e-mail.

Ethernet

A method for connecting computers to a network using coaxial cable.

E-wallet

When using e-cash, Wallet software allows several methods of payment to be defined within the wallet (for example, several different credit cards) and puts all your verification in one area.

Exposures

The number of times a reader sees the sponsor's banner image. This is a more advertiser-friendly way of determining exposure for an advertisement.

FAQ

A frequently asked question. You will find FAQ files all over the Internet: in Usenet newsgroups, mailing lists, as FTP, Gopher, and WWW sites.

File server

A computer that stores files on the Internet, making them available for access by various Net tools.

File size

Number of bytes of memory making up a file. Most search engines limit banner sizes to 8K-15K (8,192 - 15,360 bytes).

Finger

A program that displays the user, or users, on a remote system.

Firewall

A security device to help protect a private network from Internet crackers and hackers. It is a machine with two network interfaces, which is configured to restrict what protocols can be used across the boundaries and to decide what internal IP addresses can be seen to the external Internet.

Flat-fee advertising

Banner advertising charges not related to the number of impressions or click-throughs on a Web site.

Forum

A message area on CompuServe or Delphi, equivalent to an echo of FidoNet, a newsgroup on USENET or a conference on CIX.

Framoset

Frames, originally created by Netscape as an HTML extension and now supported by most major browsers (although not formally part of HTML 3.2).

FTP

The File Transfer Protocol that defines how files are transferred over the Internet.

Gateway

A computer system to transfer data between otherwise incompatible networks.

General rotation

Random display of a banner advertisement on a site. Also see 'Run of site'.

GIF (Graphics Interchange Format)

Originally created by CompuServe, it's now the most common format for compressed graphics on the Internet.

Gopher

A menu-based system for exploring the Internet.

Hit

An entry in the log file of a Web server. A hit is generated by every request made to a Web server. It has no predictable relation to users, visitors or pages.

Host

A computer that allows users to communicate with other computers on a network.

HTML (HyperText Mark-up Language)

The set of "markup" symbols or codes inserted in a file intended for display on a Web browser. The markup tells the Web browser how to display the information for the user.

HTTP (HyperText Transfer Protocol)

An Internet protocol used on the WWW to transfer HTML files.

Hub

A network device that distributes data to other systems on a network.

InterNIC

The company that controls the registration of most domain names.

Intranet

A private network that works as an internal company-wide Internet.

Impression (banner advertising)

One display of a banner to a single viewer. Advertising rates are often related to the total number of times the banner is displayed (impression total).

ISDN

Integrated Services Digital Network is a set of CCITT/ITU standards for digital transmission over ordinary telephone copper wire as well as over other media. Home and business users who install ISDN adaptors (instead of their modems) can see highly-graphic Web pages arriving very quickly (2x 68K lines, up to 256K paired).

ISP (Internet Service Provider)

A company that sells Internet connections.

IP (Internet Protocol)

Protocol on which the Internet is based.

ITU-T

International Telecommunications Union Telecommunications. The telecommunications standards-making organisation.

Java

Cross-platform programming language used extensively on the Net as it works on all computer systems. It can be used to create entire applications or to build small application modules or applets for use as part of a Web page. Applets make it possible for a Web page user to interact with the page.

JavaBeans

An object-orientated programming interface from Sun Microsystems that lets you build reusable applications or program building

blocks called components, which can be deployed in a network on any major operating system platform.

JavaScript

An interpreted programming or script language from Netscape.

Leased line

A permanent connection between two sites, which requires no dialling and includes all phone charges.

Mail gateway

A machine that transfers mail between two or more e-mail systems.

Link validator

A program that tests and reports on the validity of the links on the pages in a Web site. More advanced link validators test links to other Web sites as well as links between pages on the same site.

Log file analysis software

A log file records the following:

- The number of visitors (unique first-time requests) to a home page
- The origin of the visitors in terms of their associated server's domain name (for example, visitors from .edu, .com, and .gov sites and from the online services)
- How many requests for each page at the site, which can be presented with the pages, with most requests listed first
- Usage patterns in terms of time of day, day of week and seasonal.

Analysis software takes this huge file and lets you view the findings in graph form, etc.

Media objects

Files, other than HTML documents, which can be displayed or executed within HTML documents or in a stand-alone fashion. Examples include GIFs, JPEGs, video, audio, PDF and HotJava applets.

MHS

Message-handling system.

MIME (Multipurpose Internet Mail Extensions)

A method of sending binary objects by e-mail.

NIC

Network Information Centre.

NNTP news server

NNTP (Network News Transfer Protocol) is the prevalent protocol for exchanging news on Usenet newsgroups.

OLR (Off-line Reader)

An OLR is a program that enables you to connect to an online system, download all your messages and e-mail, read and

↙ reply to them off-line and then send back your replies.

PING (Packet Internet Groper)

A program used to test destinations on the Internet to see if they exist, are operating, and so on.

Plug-ins

Plug-ins are programs that can easily be installed and used as part of your Web browser.

Polling

Connecting to another system to check for e-mail and messages.

POP (Post Office Protocol)

E-mail system with faster delivery than SMTP.

Port number

Computers that run the TCP/IP protocols can use different ports to run different services.

PPP

Point-to-point protocol. This allows a computer to use TCP/IP with a standard telephone line.

Protocol

Standards governing the transfer of information between computers.

ROT-13

A simple form of encryption, commonly applied to some Usenet messages, which rotates the alphabet 13 places forwards or backwards.

Router

A system that transfers information between two networks using the same protocols.

Run of site advertising

Random display of a banner on a site. This is best suited to sites that won't significantly benefit from targeted advertising

Search engine

A database of information on URLs linked to certain keywords. Internet users can use this data to find the information they need.

Server

A computer, or the software on that computer, that allows other computers to access it via a network or over the Internet.

Service provider

Any organisation offering connections to the Internet or part of it.

SLIP

Serial Line IP is a protocol that enables a computer to use the Internet protocols using a standard telephone line.

SME

Small- to medium-sized enterprises - 20-500 employees.

SMTP

Simple Mail Transfer Protocol is used to transfer e-mail between computers, as part of the TCP/IP protocol family.

SOHO

In information technology, SOHO is a term for the small office or home office environment.

Spam

Unwanted e-mail.

Spider

Spiders are sent out by various search engines to search the Web for various information.

SSL (Secure Socket Layer)

SSL is an encryption system built into Web servers and browsers that uses 'certificates' of identity to authenticate Web sites and surfers. These certificates are 'digitally signed' and issued by a trusted third-party such as VeriSign.

Stat-tracking software

Software that can be used to track useful information about when and where a site is accessed and by whom.

T1 line

The T-carrier system, introduced by the Bell system in the US in the 1960s, was the first successful system that supported digitalised voice transmission. The original transmission rate (1.544Mbps) in the T-1 line is in common use today in Internet service provider connections to the Internet.

TCP

Transmission Control Protocol. One of the protocols upon which the Internet is based.

Telnet

An Internet protocol that allows you to log in to other computer systems via the Net.

Traffic

The volume of hits a site receives.

Unique users

The number of unique individuals who visit a site within a specific period of time.

URL

Uniform Resource Locator, an attempt to standardise the location or address details of Internet resources.

Usenet

A group of systems that exchanges debate, chat, etc, in the form of newsgroups across the Net.

UUencode

A method of encoding binary data so that it can be sent as an ASCII file across networks by e-mail. A UUdecoder is required to convert the file back into an executable binary file again.

VBScript (Visual Basic)

Microsoft's answer to JavaScript.

Visit

A sequence of hits made by one user at one site. If such a user makes no requests from that site during a predetermined (and discretionary) period of time, his/her next hit would constitute the beginning of a new visit. The optimal time-out interval is different for each site - 30 minutes is about average.

VRML (Virtual Reality Modelling Language)

Language for describing three-dimensional image sequences and possible user interactions with them.

Whois

An Internet program to find out the e-mail address etc of someone from a given name.

WWW (World Wide Web)

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Next issue

So what's in Internet.Works next month?

In our @Works section, we'll be looking at:

- Choosing a Web design company in the **Internet** section
- Registering and keeping a domain name in **Internet Pro**
- Advertising your site on the Internet in **Marketing**
- Choosing a business ISP in **Webmaster**
- Ways of adding sound to your site in **Step-by-step**

- 10 ways to make your Web banner advertising more effective in **Hints & Tips**

Our main feature will be taking an indepth look at Web server software, covering what to look for, how to buy it, and what to choose. There'll also be the usual mix of software and hardware coming under review.

Two more sites come under the knife in **Makeover**, plus there'll be a great selection of case studies and much, much more.

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